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JOURNAL OF EDUCATION

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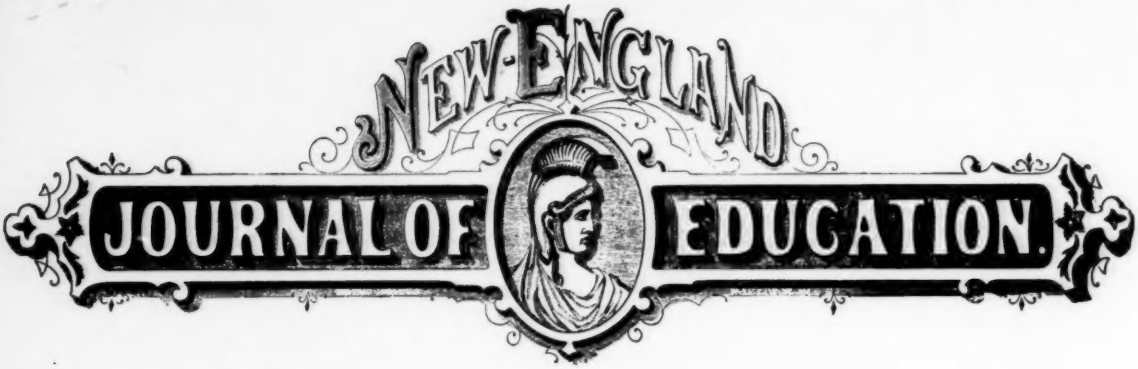
AMERICA'S OLDEST MAGAZINE FOR EDUCATORS



We thought our readers would like to see, occasionally, some reminiscences from the history of the JOURNAL OF EDUCATION. Here is one of the old mastheads from former days.

JOURNAL of EDUCATION

Volume 136 **October 1953** **Number 1**

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Our cover this month shows some of the arithmetic teaching materials mentioned in Weaver's article. Did you ever realize how many different ways you can represent 42? Our thanks go to Richard Randlett, a senior at C.L.A., Boston University, for making this picture for us. His hobby, which is really a business, is all kinds of scenic photography but he is always glad to get a new picture of a ship under full sail.

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Business manager, Ruth C. Downs
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WE'RE UNDER WAY

They say that learning should be fun, an adventure, a challenge—and learning to be a managing editor is all of that and then some. To all editors and printers the woes will sound like familiar troubles, but to anyone who has never put a magazine together, here is an invitation—to come help. There is plenty of room in the editorial office, and plenty of extra work to be done. Come join the fun, the adventure, and the challenge.

Since we wanted to design the magazine from scratch, and were bound by no traditions, we had to see the form of the pages in our mind—without much help from other issues. How wide should a column be? What kind of cover? Where do we get illustrations? What is a gutter, a gripper, chases, picas and points, and the rest of printer's jargon? What type faces are available and should be combined? And, above all, how to keep your sanity when some of the manuscript is accidently destroyed at the printing plant, and the magazine is set back a bit more. This may be just an excuse for the first issue being late, but there is so much to overcomes in the inertia, that, now we are rolling, you may expect issues nearer the first of the month on which they are due.

Without the patient help of the Editorial Board, this learning would not be so much fun—but then, they're all educators.

MANUSCRIPT WRITING OR CURSIVE WRITING?

Mary K. Carter

Teacher of Grade Five, Pierce School, Brookline Public Schools, Brookline, Massachusetts; Chairman, Manuscript Writing Committee.

Manuscript writing was approved for experimental use in the Public Schools of Brookline only after intensive research and experimentation. Twelve years ago the Written English Committee, dissatisfied with the poor, illegible results in written work in the High School, suggested that a Penmanship Committee be set up with a view to improving the quality of the penmanship throughout the schools. The Committee was divided into two groups: one to study the research in manuscript; the other, cursive writing.

The members of the Committee selected to make a study of cursive writing found that many different systems were being used throughout the United States. They learned that many school systems were shifting, at frequent intervals, from one commercial system to another because the one in use was not producing the desired results.

Sets of papers from many high schools were examined and studied. The conclusions were reached that a large percentage of the writing was unsatisfactory, and the poorer ones were practically illegible.

Sets of papers from private schools where manuscript writing was the tool were studied. These papers were found to be far superior in neatness and legibility and a joy to read.

Further research in cursive writing showed that by the time pupils reached high school their writing had deteriorated to a point where legible writing seemed to be the exception rather than the rule. The colleges have coped with this situation by requiring that assignments be typed.

Those members who were doing research on manuscript were surprised to find the large number of life situations which required the use of "printing" because of its legibility. (When the word "printing" is used, manuscript is meant, since printing is a mechanical process.) Manuscript writing is required of librarians in making out cards; it is used by nurses in keeping patients' charts; by architects and engineers on their blueprints; and on applications of various kinds and legal documents. In fact, "printing" is required on any record where legibility is essential. Business houses and department stores have a period of instruction in manuscript writing to facilitate the keeping of records and filling of orders.

In its research the Committee found, briefly, that manuscript writing promotes skill in reading and language; that it is easier to learn than cursive writing; that it is more legible; that it reduces eyestrain; that it is faster than cursive writing for little children and faster or as fast as cursive writing for older children; that it correlates better with reading, language, spelling, and art.

Bluebird come
to me.
These tiny birds court their mates by puffing out the scarlet metallic feathers of their throats so that they reflect the most light possible. They need strong wings, for they keep flying while they sip the honey from the flowers.
This is the biography of Robert E. Lee and his wife Mary. It tells of the great southern leader and gentleman whose name is honored today in North and South alike.

Samples from Brookline Schools, Grades 1, 5, and 6

As a result of this research, the Committee decided to try manuscript writing in two first grades. The progress of these children was compared very carefully with those

in the other schools. The results were so astounding that the following year all first graders were taught only manuscript writing.

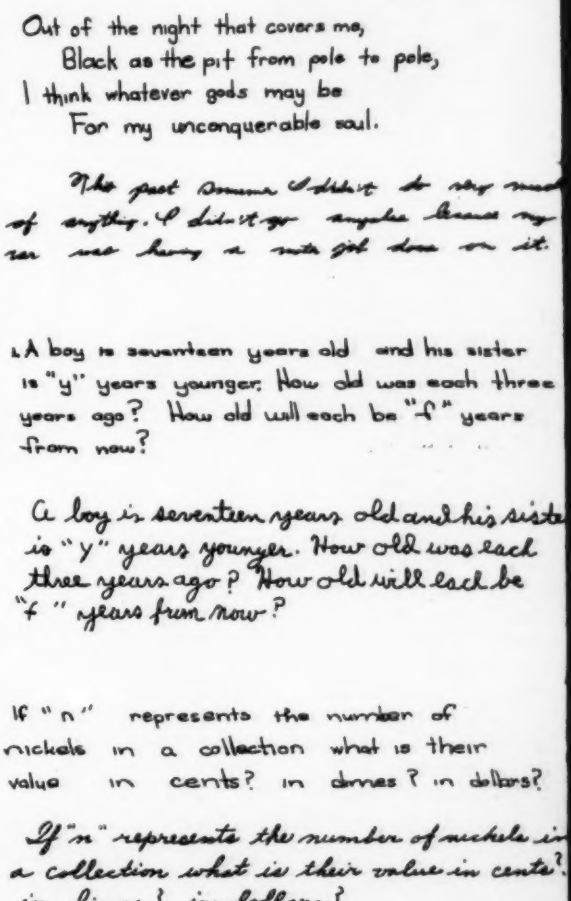
The next decision the Committee had to make was where to make the changeover to cursive writing. Some of the Committee felt that, since the writing was so beautiful and the cursive writing was deteriorating so badly in the High School, it would be a good idea to keep manuscript writing throughout the grades. Two of the schools volunteered to try this plan. The rest of the schools changed to cursive writing in the last part of grade three. Inasmuch as this change-over did not seem to meet with success, it was decided that, perhaps, the change could be made more effectively in grade four. However, in the schools where the change-over was made, the teachers were dissatisfied with the results. They found that the cursive writing did not answer the purpose the way that manuscript writing had done; and that, for the most part, the children were substituting an illegible writing for the beautiful writing they had acquired. The teachers in the two experimental schools were well satisfied with their results. In discussing this situation, it was the consensus that the work of the children changing to cursive writing was not so good; that the expressing of their thoughts on paper was slowed up; in fact, that they were losing more expressional skills than they were gaining. It was suggested that, since cursive writing was not meeting the need in the High School, manuscript writing might be the answer. The only objection raised at this time was the question of speed. Some members still thought that cursive writing was faster.

The amount of material on speed was limited, so that the Committee conducted its own experiments. One member of the Committee gave all the speed tests in the various schools. At that time there were only two schools in the System which were using manuscript writing throughout the grades; the fifth-grade students in the remaining schools had had only cursive writing, so there was an ideal situation for comparison. It was found that in all cases manuscript writing was as fast as cursive and, in some instances, faster. In every case the legibility of the manuscript papers was far superior.

After much deliberation the Committee decided to try manuscript writing throughout the grades in all the schools. Provision has been made to teach the children to read cursive writing beginning in grade four. All board work from grade four on, is done in cursive writing so that the children may have ample practice in the reading of it. One fifth-grade teacher provides further practice in the reading of cursive writing by having each child in the room bring in a sample page of his mother's and father's writing. This gives each child in the room an opportunity to read about sixty different styles of cursive writing.

In fourth grade, also, the children are taught to write a cursive signature. This is done to satisfy those parents who are fearful that an occasion may arise in which a manuscript signature might not be acceptable.

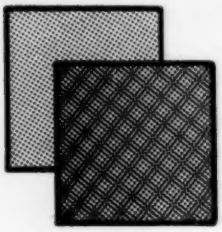
This past year the first group of pupils, who have been taught manuscript writing only, reached High School. In May, the Committee met with the entire faculty and the Headmaster of the High School to receive their criticisms and suggestions. The teachers were enthusiastic in their praise of manuscript writing. All agreed that the legibility and neatness of the Freshmen were superior to what they had been in previous classes when cursive writing had been the tool. The Committee will continue to watch the progress of this group.


Out of the night that covers me,
Black as the pit from pole to pole,
I think whatever gods may be
For my unconquerable soul.
A boy is seventeen years old and his sister is "y" years younger. How old was each three years ago? How old will each be "f" years from now?
A boy is seventeen years old and his sister is "y" years younger. How old was each three years ago? How old will each be "f" years from now?
If "n" represents the number of nickels in a collection what is their value in cents? in dimes? in dollars?
If "n" represents the number of nickels in a collection what is their value in cents? in dimes? in dollars?

High School Manuscript and Cursive Writing

In spite of the overwhelming acceptance of manuscript writing by the teachers and the majority of parents, a further job of selling to some of the parents is still to be done. The Superintendent of Schools, the School Committee, and the Handwriting Committee are continuing their study of the entire situation. It is possible that an elective course in cursive writing may be offered in grade eight or in the High School to satisfy the desire of some of the parents to have their children learn cursive writing.

However, on the basis of the excellent results of this first group in High School and since the aim of all handwriting instruction is to develop skill so that the expression of thought and ideas may be recorded in an easy, fluent, and legible form for *others to read,* the Handwriting Committee is convinced, at this point, that manuscript writing meets these requirements successfully.



READING READINESS IN THE KINDERGARTEN

M. Marie Bresnahan

Professor of Education, Elementary Education Division, State University of New York, Teachers College at Plattsburg, New York.

It is generally agreed that kindergartens have become an integral part of our educational system. Therefore, attention should be focused on their effectiveness and how they can contribute to the growth and development of the whole child. Today's kindergarten provides many experiences in social living, creative activities, physical activities, language growth and training in specific skills in auditory and visual discrimination as well as other skills in the reading readiness program.

All of the experiences the child has in the kindergarten have a cumulative effect on his readiness to read but some require more specific training than others.

The importance of reading readiness is unquestioned and it is now accepted as an essential part of the reading program. We now know that the different needs of different kindergarten children must be recognized and that materials and methods in the readiness program must be adapted to meet these divergent needs and varying abilities.

Intelligence tests, Reading Readiness tests, Social Rating Scales, Anecdotal Records and her own judgment will aid the teacher in gaining a comprehensive picture of the degree of readiness of each child. Once the needs and abilities of the child have been recognized it becomes the responsibility of the teacher to provide for the fulfillment of these needs.

Research[1] reveals that kindergartens can make necessary contributions to the development of the child in its training in readiness to read. The kindergarten teacher must have a well planned program which will achieve these important objectives.

The importance of a knowledge of Reading Readiness and a concept of its significance can only be understood when the term is accurately defined.

"Reading Readiness," as defined by Murphy[2] is teaching the necessary skills to prevent confusions later in reading.

According to Evans[3] Reading Readiness is a stage of growth before which it is not economical to attempt to teach reading and after which there is no advantage in postponing it.

In a study conducted by Wilson, Fleming, Burke and Garrison[4], at the Horace Mann School it was found that:

1. Many of the kindergarten children knew many letters before words.
2. The kindergarten and grade one children who knew the most letters, forms, and sounds tended very definitely to be among the first to learn to read and to be the best readers.
3. The children who were ignorant of, or much confused about letters, forms and sounds tended very definitely to be the poor readers.

Gates, Bond and Russell[5] in their study concluded that:

> "Reading Readiness is something children have acquired in varying degrees; it is something to be taught and not a series of attributes for the development of which a teacher can do nothing but wait."

The authors of the Murphy-Durrell[6] test have found that the following are among the most important causes of failure in beginning reading.

1. Lack of auditory discrimination of word elements. Children with excellent speaking vocabularies often fail to hear the basic sounds in words.
2. Lack of visual discrimination of differences between words. Children confuse words and letters which look somewhat alike; they fail to see the form of words.

Since both visual discrimination and auditory discrimination are such pertinent factors in the child's ultimate success in reading a planned program should be provided so that he will gain these experiences by spring of the kindergarten year. This planned program should be anticipated through developmental experiences in the kindergarten which have been leading up to this ultimate stage of development.

Materials for specific training of auditory discrimination and visual discrimination must be highly motivated through games, devices and play activities which take cognizance of the child's natural enthusiasm for new satisfying and challenging experiences.

With the major aims of the kindergarten and the child's level of development in the various areas always

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[1]Bresnahan, M. Marie, "A Review of Research of the Effectiveness of Kindergarten Training." Unpublished Master's Thesis. Boston: Boston University, 1950. pp. 51-79.

[2]Helen A. Murphy; "An Evaluation of the Effect of Specific Training in Auditory and Visual Discrimination on Beginning Reading." Unpublished: Education Doctor's Thesis. Boston: Boston University, 1943.

[3]Evans, Clara. "Reading Readiness for the Kindergarten." *Elementary English Review* 143-146; March 1945.

[4]Wilson, Frank T., Fleming, Cecile W., Burke, Agnes, and Garrison, Charlotte. "Reading Progress in Kindergarten and Primary Grades." *Elementary School Journal* 38: 442-449; November 1939.

[5]Gates, A., I., Bond, G. L., and Russell, D. H. "A Significant Study of Reading Readiness." A Report on Their Monograph. "Methods of Determining Reading Readiness." *Elementary School Journal* 40: 165-167. November 1939.

[6]Murphy-Durrell, Diagnostic Reading Readiness Test. World Book Company, Yonkers-on-the-Hudson, New York. 1949.

before her, the teacher can present reading readiness activities through colorful and interesting games and devices that will be delightful to the child, without sacrificing him to the formalized workbook approach that seems to be so prevalent in some kindergartens.

The reading readiness materials should be available, at all times, on a table or low shelf so that the child can select them just as he would a picture book from the library table or a puzzle from the shelf.

If basic guidance has been given in helping the child to participate in small group activities, and if previous instruction has been given in how to use the materials, he will form a group to play the games as well as making individual use of these opportunities.

Here is one effective technique of training in auditory discrimination of sounds in words in a series of graded steps of difficulty that has proved successful at the kindergarten level:

Step I

A set of pictures attractively mounted on 9x12 construction paper for each initial consonant to be introduced.

Always use same key or stimulus picture as a point of reference. Pictures in set all begin with same sound, ex. *mitten* (key picture) others in set might be *moon, monkey, man, milk*, etc. As you show picture, say word it represents. Children repeat words after you. You stress the fact that all the words "begin just like *mitten.*"

Step II

Give many practices in repeating, after you, a series of words that begin just like *mitten*. It requires many practices before children can give you a word *that begins like mitten.*

Step III

Use familiar nursery rhymes or traditional songs or games that have several words that "begin just like *mitten.*"

ex. Do you know the Muffin Man

1. Say or sing it together—teacher and group.
2. Teacher repeats rhyme or song.
3. Children listen for the words that "begin just like *mitten.*"
4. Children then tell words that "begin just like *mitten.*"

Step IV

1. Teacher gives a series of words that "begin just like *mitten*" with *one* word different.
2. Children listen carefully and clap hands (or signify in some way) on the word that *did not* begin like *mitten.*

Step V

1. Teacher gives a series of words and the children listen for the *one* word in the series that "begins just like *mitten.*"
   mitten—door—cake—pan—money—fall
2. Children clap hands on the word that "begins just like *mitten.*"

Step VI

1. Children collect pictures, out of magazines, that begin "just like *mitten.*"
2. a. They paste pictures on chart or
   b. Place them on flannelgraph

Step VII

New initial consonants may be introduced after many practices in Steps I-V.

Step VIII

Games and devices should be available.

Step IX

Initial blends may be introduced by using these same procedures after initial consonants have been presented.

Step X

Rhyming words may be introduced after the initial blends have been presented. If many opportunities have been provided in saying and listening to rhymes this step may not be as difficult as initial blends.

1. Follow procedure through Step VIII
2. Rhyming stories that the children have enjoyed earlier in the year may be utilized, at this time, for the discrimination of rhyming words. On graded steps of difficulty are such stories as:
   Coralie Crothers[7]
   Coralie Crothers' Birthday
   Noah's Ark[8]
   Cowboy Sam

Suggested Games for Specific Skills in the Reading Readiness Program

1. *Roll the Block*

Purpose:

to improve auditory discrimination
- initial consonants
- initial blends
- rhyming words

Materials:

Make a block from heavy construction paper. On each side of block mount a picture that begins with a different initial consonant. Make small circles of colored paper (or use kindergarten beads). Make large cards for several players—approximately 9"x12". Pictures cut from small "Golden Dictionary" (Simon-Schuster) and mounted on large cards. Each large card different.

Procedure:

Best as a group game. Each child has a turn to roll block. The child names the picture that comes up after the block has been rolled (i.e. telephone). Then he takes a colored circle and places it on a picture on his large card that begins with the same sound (i.e. tiger) and names it.

Suggestion:

Do not mix initial consonants, initial blends and rhymes on same block. After child can discriminate initial consonants then make *new* game of blends—and still later rhyming words.

2. *Fishing*

Purpose:

to improve auditory discrimination
- initial consonants
- initial blends
- rhyming words

Materials:

A glass mixing bowl or fish bowl. Fish made of construction paper on which are mounted pictures that begin with different initial consonants. Place several staples on head of fish—a stick or pencil with a *good* magnet suspended from it.

Procedure:

May be played with two children or a group. Take turns with magnet to catch a fish. When he catches the fish he names the picture that is mounted on it (i.e. ball). If he can give another word that "begins just like it" (i.e. bed) he can keep the fish. If not, the fish goes back into the bowl. Each

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[7]Gay, Romney, *Coralie Crothers*, Grossett and Dunlap. N. Y.

[8]Little Golden Books, Simon-Schuster, N. Y.

one counts his fish at the end of the game. The one with the most fish is the winner.

Suggestion:

See previous suggestion for *Roll the Block.*

3. *Wheel of Fortune*

Purpose:

to improve auditory discrimination
initial consonants
initial blends
rhyming words

Materials:

A large cardboard circle or wheel on which has been mounted pictures (such as: mitten, baby, cake, foot, etc.) on the outside edge. A spinner is placed in the center of the wheel.

Make small circles of colored paper or use kindergarten beads.

Make a large chart of oak tag (12x18) on which pictures are mounted that represent the same initial consonant sound but are different from the ones mounted on the wheel.

Procedure:

Child spins "the spinner" on the wheel. He names the picture where the spinner stops. He finds a picture on the chart that "begins just like it" and puts a circle or bead on it.

Suggestion:

A more difficult step is to omit the chart and have the child give another word that "begins just like" the one where the spinner stopped. Keeps score of how mnay he got right, with colored circle.

4. *Matching Sounds*

Purpose:

to improve auditory discrimination
initial consonants
initial blends
rhyming words

Materials:

Manila folder. Key or stimulus picture pasted at top of folder.

On left side might be pasted picture of a

On right side might be pasted picture of a

Envelope pasted on back of folder. Pictures cut from small "Golden Dictionary" (Simon-Schuster) and mounted on oak tag cut the same size as picture.

The small cards should contain pictures of objects that begin with the same sounds as the stimulus pictures at the top of the folder. Approximately 5 pictures that begin like ball and 5 pictures that begin like mitten.

Procedure:

To be played by an individual child. He takes pictures from envelope on back of folder. All the pictures that begin like *ball* are placed under the picture of the ball. All the pictures that begin like *mitten* are placed under the picture of the mitten.

5. *Race Track*

Purpose:

to improve auditory discrimination
initial consonants
initial blends
rhyming words

Materials:

A large chart to represent a race track. Approximately *ten* pictures mounted on race track, i.e. initial consonants *tent, candy, fish, doll,* etc. There should also be a place marked "start" and "finish".

Small cards 3"x4" with pictures of objects that begin with same sounds that are on race track.

Small toy cars of different colors.

Procedure:

Two or more children may play game together.

Toy cars are placed at "start".

First player selects a small card from pack and names it.

If it begins with the same sound as the first picture on the track, his car moves. If not, the card is put on bottom of pile and other player takes turn.

"Winner" reaches "finish" first.

Visual discrimination, or the ability to discriminate between different objects or letters and words by their forms, is an essential part of the reading readiness program. Some children will need many practices in making gross discriminations between simple objects whereas others will be ready to make finer discriminations between forms of letters and words. The graded steps of difficulty are:

Step I
Their own environment—the kindergarten
colors
See Nancy's brown shoes
Find another pair just like them
size
Two chairs the same size
Find a chair that is bigger (or smaller)
color and *size*
The two toy trucks look just alike
Another truck is different in size and color.

Step II
Ability to match objects with a picture
1. match toys with similar pictures of toys such as a toy airplane with a picture of a toy airplane (pictures from toy catalogue where equipment is bought so that they look just alike)
2. matching pictures of objects (see suggested games)

Step III
Matching geometric shapes according to size and color.

Step IV
Ability to note differences in detail in similar pictures
1. Three pictures of Santa Claus that look just alike and one Santa Claus different. (gross discrimination)
2. Three clowns that look just alike and one clown different in a very minor detail (finer discrimination)
3. Magazine covers are more satisfactory and attractive for this step

Step V
Ability to match letters
1. Capital letters
   a. gross discrimination
      M O
      O M
   b. finer discrimination
      P L B T P D
2. Lower case letters
   a. gross discrimination
      t s
      s t
   b. to finer discrimination
      b d g b p

Step VI
Ability to match words
1. graded steps of difficulty
   a. two letter words
      in be in at do
      no on do in no

b. three letter words
mat ten fat may mat
dog got dot dog top
c. four letter words
sand done sand some dark
ball doll bell ball bill

Several similar devices of Steps V and VI should be printed on white paper. They may be mounted on heavy, colorful construction paper. A piece of yarn about 6" long, with a bright kindergarten bead knotted to the end, may be tied to the left side of the key word such as *ball*. The bead can then be placed on the word that looks just like it.

1. *Object Lotto*

Purpose:
To improve visual discrimination

Materials:
Large cards for several (4-6) players—approximately 8" x 8½". Pictures cut from small "Golden Dictionary" (Simon-Schuster) or toy catalogues and mounted on large cards (possibly six on a card). Each large card different.
Identical pictures and match those on large cards mounted on a number of small cards each containing one picture.
You will need more than one book or catalogue to obtain enough pictures for both sets of cards.

Procedure:
The teacher and one child may play; however, it is a better game for a group of children with one child acting as teacher or leader. The leader has the small cards on which a picture has been mounted. The leader holds a small card up before the group and says "Look carefully!" The group looks at the small card and then at their large card. If a child finds the same picture on his large card he covers it with the small card. The child who first covers all his pictures on the large card is the winner.

2. *Just Alike*

Purpose:
To improve visual discrimination

Materials:
9" x 12" chart with strips 1" wide stitched on (down side and along bottom of strip) about 3" apart.
Cut out pictures from catalogues, magazines, story books, etc.
Obtain 3 sets for each chart.
In each set 3 should be just alike and 1 or 2 slightly different.
Place pictures in envelope that is pasted on back of chart.
Various sets can be made up of:
Zoo or Farm animals
Fire engines
Toys
Just the heads of story favorites such as Howdy-Doody

Procedure:
Child removes pictures from envelope and places one set of 3 pictures that *look just alike* into the strip. Next he places the next set of 3 pictures that look just alike into the next strip.
Then he places the last set of 3 pictures that look just alike into the last strip.

3. *Finding Similar Shapes*

Purpose:
To improve visual discrimination.

Materials:
A square, circle, diamond, and star of different colored construction paper such as a red square, a blue star, etc. mounted at top of 12" x 18" oak tag chart. (or use flannelgraph)
Envelope pasted to back of chart. Various squares, circles, diamonds and stars of different colors and size placed in envelope.

Procedure:
Child takes cut-outs from envelope and matches them to key shapes mounted on oak tag chart, according to color and size, by placing them under the correct shape and color.

Suggestion:
Puzzles may be made from geometric figures also.

4. *Letter Game*

Purpose:
To improve visual discrimination.

Materials:
A number of small square cards on which are mounted all the letters of the alphabet, one letter per card. Each letter of the alphabet should be reproduced, at least twice, in different colors.
Large cards for several players—approximately 9" x 12".
Alphabet letters mounted on large cards in Approximately 5 large cards and each one different.

Procedure:
The teacher and one child may play or one child by himself. However, it is a better game for a group of children with one child acting as leader. The leader holds a small card up and says "Look carefully." The group looks at the small card and then at their large card. If a child finds the same letter, in the same color, on his large card he covers it with the small card. The child who first covers all the letters on his large card is the winner.

Suggestion:
This game may be played first with capital letters and later a similar game may be made up of lower case letters as it is a finer discrimination.

5. *Matching Words*

Purpose:
To improve visual discrimination

Materials:
Words are printed in columns on 9" x 12" white drawing paper. The white paper is mounted on larger sheets of more colorful construction paper.
Several large arrows are made in different colors, of construction paper.
Arrows are placed in envelope, pasted to back of word chart. Words printed on white paper in columns: use manuscript writing

do	fun
fun	do
has	has

Procedure:
Game to be played by individual child. He takes arrow from envelope in back of chart and places it from word in left column to word in right column that "looks just like it."

Suggestion:
This game may be played from the gross discrimination suggested above to finer discrimination such as: toy tag boy toy bag

A well planned, differentiated program, of games and devices, in auditory and visual discrimination will give the child many opportunities for success in informal, play-like activities. Any semblance of formal drill or any feeling of tension or frustration will be avoided as a readiness for future learning is developed within the child.

OUR NUMBER SYSTEM AND THE USE OF MANIPULATIVE MATERIALS IN ARITHMETIC

J. Fred Weaver
Assistant Professor of Education, School of Education, Boston University, Boston, Massachusetts.

Modern arithmetic procedures and techniques give much emphasis to the use of manipulative materials and devices as an aid to meaningful instruction. The various teaching aids which have been prepared or constructed differ greatly, however, in their nature, purpose, and use.

Many of these materials and devices have been developed in an attempt to (1) emphasize the importance of *ten* as the base of our number system, and to (2) highlight the principle of *position* or *place-value* in our system of notation. Such materials and devices are used not only to develop these fundamental concepts, but to apply them in discovering or rationalizing many of our common algorisms.

Not all teaching aids used frequently in connection with these purposes are equally appropriate and effective, however. The nature of a representation and subsequent manipulation will differ significantly from one device to another. Furthermore, any given device frequently may be used in significantly different ways. Unless the teacher senses these situations clearly and guides instructional activities and experiences accordingly, her use of materials and devices will be not only ineffective; meaningful methods even may be replaced by those which result in misleading or erroneous concepts and ideas.

An Illustration

The decomposition ("borrowing") method of working a compound subtraction example will serve well for illustrative purposes at this point. Let us assume that some third-graders are just beginning their systematic study of compound subtraction. Early in their learning experiences they encountered the example $\begin{array}{r} 52 \\ -37 \\ \hline \end{array}$, arising from a "takeaway" situation having social significance.

Their teacher, Miss Webster, wanted to lead the children to a discovery of the necessary change that must be made in the minuend, 52. Furthermore, she hoped to guide the children to a discovery of the modified algorism shown below by having them record symbolically the change in the minuend which resulted from their use of manipulative materials.

$$\begin{array}{r} 4\ 12 \\ 5\ \ 2 \\ -3\ \ 7 \\ \hline 1\ \ 5 \end{array}$$

The recording of the remainder, 15, was to be indicated step-by-step as each part (first *ones*, then *tens*) was found by proper manipulation.

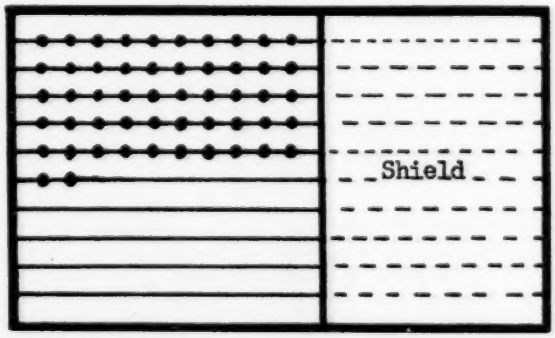
Billy's and Mary's Representations and Manipulations

Miss Webster permitted the children to select their own materials or devices for representation and manipulation. Billy got a box of blocks from the Number Table and brought them to his desk. He counted out 52, putting them in a jumbled pile on the desk top. Next he "counted away" 37 blocks by ones. Finally he counted the blocks left, getting the correct remainder of 15.

Could Miss Webster have used Billy's representation and manipulation to lead to a discovery of the necessary change in the minuend and the resulting modified algorism? Definitley not. True, Billy got the "right answer." However, his representation and subsequent manipulation of the 52 completely disregard the ten-ness of our number system and its relation to our system of positional notation. Getting the "right answer" to this, or any other example is no indication in itself that *appropriate* representation and manipulation in terms of a specific purpose or principle have been in evidence.

Of course, Miss Webster might have used Billy's procedure to some advantage. If the different techniques suggested by the children were discussed and evaluated, Billy's attack would illustrate well the inefficiency of counting and its lack of usefulness in helping to discover or understand the more efficient procedure used most commonly.

Mary elected to use a "Ten-Tens Counter" or "Hundred-Bead Number Frame," and represented the minuend, 52, as shown below.



Then Mary proceeded to "count away" 37 in the following manner. She counted "10, 20, 30" as she moved the top three rows of beads behind the shield. Then she counted off 7 more beads by ones, moving the 2 beads on the sixth rod and 5 of the beads on the fifth rod behind the shield. Thus, 15 beads were left.

Mary's answer was correct, of course. But did her manipulation parallel the changes shown by the modified algorism? Again, definitely not. The initial representation of the 52 was in keeping with the ten-ness of our number system. However, the principle of place-value was *not* evident. Furthermore, Mary's manipulation not only began with the tens-group rather than with the ones, but also failed to depict the change of 1 ten to 10 ones which lies at the heart of the decomposition procedure and its related algorism.

In fact, Mary could have manipulated the beads in a variety of other ways and still would have gotten the correct answer of 15. But in *no* instance could her manipulation of this device have paralled the changes associated with our subtraction algorism. For Miss Webster's intended purpose, Mary's representation and manipulation were inappropriate, or at least ineffective, even though an improvement upon Billy's procedure.

Jerry's, Betty's, and Tommy's Representations

Jerry, Betty, and Tommy used representations that were alike to a certain degree, but differed in several important respects. Jerry used dowel rods similar to lollipop sticks, and showed 52 as 5 bundles of ten rods each and 2 single rods. Betty used "Place-Value Pockets," putting 5 bundles of 10 "tickets" each in the tens-pocket and 3 single tickets in the ones-pocket. Tommy used Place-Value Pockets also, but his representation puzzled some of the children. He put only 5 single tickets in the tens-pocket and 2 in the ones-pocket.

Let us examine these three representations before considering the subsequent manipulations. It will be seen that the representations differ in the way in which attention is directed to the ten-ness of our number system, and the degree or extent to which the principle of place-value is utilized.

Jerry's representation clearly highlights the ten-ness of our number system. Utilization of the place-value principle, however, is open to some question. This latter concept was *implied*, in a sense, by placing the 5 bundles of ten to the *left* of the 2 single dowel rods. When numbers such as 52 are shown in this way, the representation is an adequate one, and a helpful one, for many children at this stage or level of learning. Notice, however, that the tens-bundles *could* have been placed to the *right* of, or *above*, or *below*, etc., the 2 ones. In any of these situations 52 dowels would have been involved: 5 tens and 2 ones. Only when the tens are to the *left* of the ones, however, is there any possibility of relationship between the representation and the place-value principle. This is the way the materials should be placed, although even then it is *not position* which truly differentiates tens from ones.

Betty's use of the Place-Value Pockets also emphasized the ten-ness of our number system. Her representation went a step farther than Jerry's, however. It pointed to the fact that there is a *place* for tens and a *place* for ones, as in our notational system. From that standpoint, Betty's representation proves to be more helpful for some children than does Jerry's. Many persons feel hers to be very adequate and effective at this stage or level of learning. It is interesting to note, however, that if in some way the tens and ones had been reversed in making the representation and placed in the wrong pockets, this would not have changed the fact that there were 52 tickets. Again it can be seen that in a representation of this nature it is not *position* which truly differentiates tens from ones. However, this fact certainly does not render the device unhelpful when used properly as in Betty's case. Rather, caution must be exercised, as was necessary with Jerry's representation.

Tommy's method of showing 52 — 5 tickets in the tens-pocket and 2 tickets in the ones-pocket — utilized the principle of place-value more fully than any other representation discussed thus far. Only 7 tickets were used. Five of them indicated tens, rather than ones, because of their *position*. The other 2 represented ones rather than tens for the same reason. If the position of the 5 tickets and the 2 tickets had been reversed, the representation would have indicated 25 rather than 52. Without question, Tommy's method of showing 52 is the most "quantitatively mature" of the five which have been discussed, requiring the highest level of understanding. Not only must the principle of position be understood clearly, but the ten-ness of our number system must be comprehended without an explicit representation of this fact through the use of "bundles" of ten.

Representations such as Jerry's and Betty's are usually the most helpful for children in the early stages of work with our number system and our algorisms. As numbers become larger—thousands and more—it becomes increasingly cumbersome to represent the different sizes of groups with "bundles." With these larger numbers, Tommy's form of representation is much to be preferred. The transition from the "bundle" type of representation to the more mature type used by Tommy is not an easy one for many children to make, however. Careful instruction must be provided if this transition is to be made successfully.

Jerry's Manipulation

In connection with Miss Webster's purpose of leading children to a discovery of the modified algorism, with its changed minuend, the subsequent manipulation of materials is just as important as the initial representation. Now let us see how Jerry manipulated his 5 bundles of ten dowels and 2 single dowels.

First, Jerry took the two single dowels away. Needing more to take away 7 in all, he then broke one of the bundles of 10 and removed 5 more single dowels. Thus, at this point there were left 5 single dowels (and 4 bundles of 10.) Jerry then took away 3 of the remaining tens-bundles, leaving but one bundle of 10 (along with the 5 single dowels.) The correct answer of 15 was therefore in evidence.

It should be obvious that Jerry's manipulation did not parallel the change in the minuend, 52, which is associated with our algorism. When working with the number symbols, if there are not enough ones to subtract, we decompose the minuend *before making any subtraction*. Specifically, to parallel our algorism, 52 would *first* be changed to 4 tens and 12 ones. *Then* the 7 ones would be taken away, followed by the 3 tens. Jerry, of course, did not do this with his dowels. He first took away *some* of the ones (i.e., 2), then changed one bundle of 10 to ten ones and removed the remaining ones (5). Ob-

viously this does not parallel the change in the minuend. anticipated by Miss Webster. The dowels *could* have been manipulated toward that end, but they were not.

Betty's Manipulation

Betty sensed at the outset that there were not enough ones to subtract, and proceeded as follows. She removed 7 tickets from one of the bundles of 10 in the tens-pocket. Then she put the remaining 3 tickets with the 2 tickets originally in the ones-pocket, thus making 5 ones. Finally she removed 3 of the 4 remaining bundles of 10, leaving one bundle of tickets in the tens-pocket (along with the 5 tickets in the ones-pocket.) Thus, the correct answer of 15 resulted.

Again it should be evident that the manipulation did not parallel the changes implied in our algorism. Of most importance, there was lacking any conscious change of 5 tens and 2 ones to 4 tens and 12 ones. If Betty consciously had made this change *first*, and then proceeded as she did, her manipulation would have paralleled the *thought pattern* advocated by some persons for thinking through a basic subtraction fact when the minuend is larger than 10. (For example, to subtract 7 from 12, think: 7 from 10 is 3, and 2 are 5.)

Tommy's Manipulation

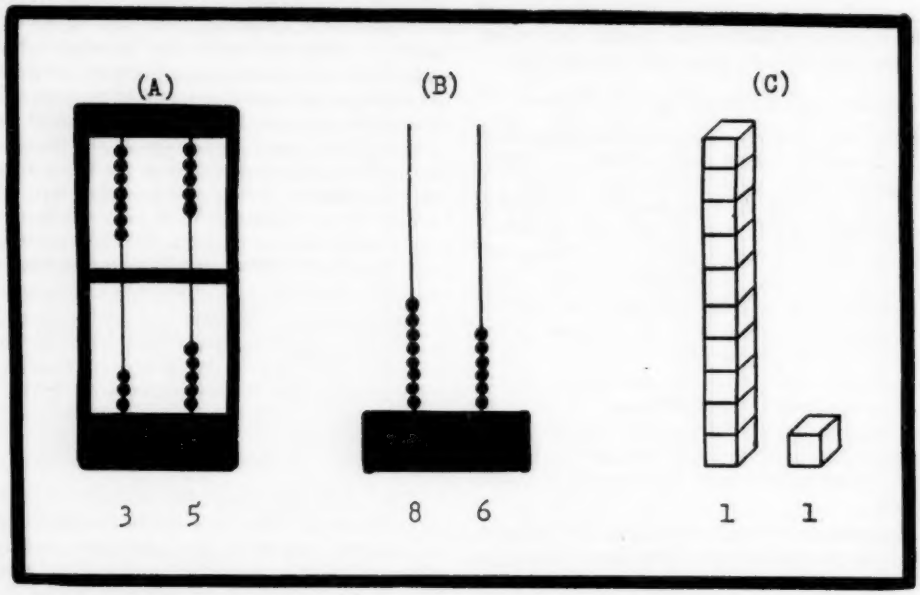
It will be recalled that Tommy had represented the minuend with 5 tickets (not bundles of 10) in the tens-pocket and 2 tickets in the ones-pocket. When attempting to take away 37 he, like Betty, sensed at the outset that there were not enough ones. His manipulation differed from hers, however.

Tommy first removed one ticket from the tens-pocket and replaced it with 10 tickets in the ones-pocket. Thus, he re-expressed the minuend, 52, as 4 tens and 12 ones at the very outset of his manipulation. Then Tommy made each subtraction–first the ones (7 from 12), then the tens (3 from 4.) Fifteen tickets–1 ten and 5 ones–were left.

Obviously Tommy's manipulation, as well as his initial representation, was the most mature from a quantitative standpoint of those which have been described, evidencing a high level of understanding of the place-value principle in relation to the use of representative and manipulative materials. Furthermore, his decomposition of the minuend at the outset of manipulation paralleled the principle and change behind our compound subtraction algorism. Even though Betty and Jerry used other materials and types of representation, it would have been quite possible for their manipulations to have paralleled the algorism also. They did not do this in the form described, however.

Other Devices

The materials which have been discussed are not the only ones which may be used to make representations and manipulations which are related to our number system and our algorisms. Three other devices have been shown below: (A) the "Modernized" closed-end abacus, with a fixed number of beads (10) on each rod; (B) the open-end abacus, with room for as many as 20 beads on each rod, as they may be needed; and (C) tens and ones blocks.



The interested reader may wish to consider seriously the appropriateness of each of these (and other) devices for performing a compound subtraction such as $\begin{array}{r} 52 \\ -37. \\ \hline \end{array}$ Although the "right answer" can be found through proper representation and manipulation on any one of the three devices, only with (B) and (C) is it possible for the manipulation to be made in such a way as to decompose the minuend at the outset and parallel the algorism.

Concluding Statement

The major points implied in this discussion are by no means unique to compound subtraction. They generally are valid not only for other phases of the subtraction process, but for the other fundamental processes as well –addition, multiplication, and division. Furthermore, these major points have as important implications for situations involving common fractions and decimal fractions as for those involving whole numbers.

(Continued on page 31)

THE WRITING PROGRAM IN THE INTERMEDIATE GRADES

LaVerne Strong

Curriculum Consultant, Connecticut State Department of Education, Hartford, Connecticut.

Adults And Writing

Most of the adults in our country have been through our schools and in most cases have had English instruction each year of attendance. Does it follow then that they enjoy writing and turn to it easily and naturally as need for it arises? Some interesting data can be easily obtained by raising questions in any group when the inevitable lull in their conversation arises. "Do any of you owe letters which are long overdue of answer? When you do get around to writing, how do you usually close them?" The greater majority will admit guiltily and with amusement that they do have quite a few letters pushed back and that, when they do drive themselves to the task of writing, they close with an apology for their haste. The apology is in reality a cover device which is used to excuse possible errors.

Are teachers included in this group? They should have interest and facility in writing not only because of personal, professional, and vocational needs but they have the responsibility for helping children develop writing competency. A notable lack of enthusiasm can be discerned, however, when an instructor in a summer or in-service education course or workshop announces the requirement of a term paper. If the group feels so free and secure that they can openly express feeling, they may emit heartfelt groans! Outstanding classroom experiences may often be observed but if teachers are asked to write of them for publication, the answer usually is, *"I? I can't write!"* Among our professional leaders in education there are many who freely admit they must literally force themselves to writing; others refuse outright with the excuse that they cannot find the time.

Attitudes are born out of the emotions experienced in situations. Can this mean that adults have *learned* to dislike and to avoid writing? If any of these observations have even grains of truth among them, our whole program of writing instruction from the first grade through college needs serious evaluation and redesigning.

Basic Values Underlying Writing Instruction

Teachers teach according to their own basic values regardless of those they verbally support. One value upon which high premium apparently is set is perfection of performance. The imposition of adult standards upon children and youth has caused the acid comment that teachers have been too greatly concerned with correct spelling and handwriting and too little with ideas.

These basic values of writing are often formulated out of the teacher's own learning experiences. A recent attack upon methods of teaching writing stated that today's instruction was still being affected by a residue of attitude from the 1890's. In that era the stilted patterns of phraseology and the flowing, ornate script was the hallmark of those fortunates who were to be distinguished as gentlemen because they had more than the few years of education achieved by the masses. The teachers of English had a position of particular prestige and they demanded from their students external standards of form that were so high they could only be achieved through grueling effort. The greatest damage in such a program occurred when classroom teachers absorbed these values and in turn demanded them of students at the expense of originality of thought.

Is it not important to have the ability to write correctly? Increased literacy, stepped-up vocational, economic, social, and personal needs for writing combined with improved and faster means of communication makes the ability to express oneself fluently, and effectively in a form that is intelligible and acceptable more imperative than ever before. But external perfection at the cost of unwillingness to write is paying a price far beyond its value.

Influences Of Methods Of Teaching

Part of the difficulty may also be traced to older methods of classroom instruction which in some instances may persist today. One device widely employed was to list questions on the blackboard which children were to answer in writing after required reading of pages of history, geography and science. Time pressure was so great that often these written pages were not checked for form and possible errors. Children learned through repeated practice incorrect spellings, poor handwriting, use of fragments of thoughts, and omission of capitalization and punctuation. In many instances they laboriously copied from the book but through boredom and fatigue many errors crept in. Such practice, which often consumed from one to two hours a day, negated the direct instructional periods in spelling, handwriting and usage. Too, such practice did not serve the professed purpose of focusing attention and improving comprehension. The primary purpose was maintenance of quiet and order for as long as the hands were busy, the body was reasonably quiet and the lips were closed.

Let's Clarify Our Thinking

Today classroom instruction in writing exists at all levels from formal instruction on grammar through laissez faire to creative teaching geared into the daily needs of children. Perhaps the formulation of some basic assumptions in regard to writing may prove to be an aid in providing a sound framework for effective instruction:

1. Since learning is an active process, children learn to write by writing.
2. Many situations occur in daily living both in and out of school which cause children to have a need for writing.

3. Underlying freedom of expression is the need of having something to express.
4. A stimulating environment in which pupils have broad, rich experiences geared to their interests and needs is essential to writing productivity.
5. Children use writing easily and naturally when they experience a need to communicate to others or to record something that is important to them.
6. Children are interested in learning to write when they understand the real purpose, the value, and the need to be able to communicate ideas in writing.
7. Children readily recognize the necessity to achieve good form, good construction, correct spelling, and legible handwriting when all these elements are related to making someone else understand that which is important to them as writers.
8. Children will write freely in a comfortable and secure situation in which they know their efforts and production will meet with appreciation and constructive help for future improvement.

Let's Use What We Know

Broad and intensive research has made available much data in regard to developmental levels, developmental tasks, growth and learning, and the factors which influence maturation. Many studies, too, have been made to determine growth in language competencies in relation to levels of growth and development. Much more is actually known about how children grow, develop, and learn than appears in common practice. "When shall we use what we already know?" is an oft repeated plea of educational leaders and professional organizations.

Each year article after article on functional teaching of writing appears in professional journals. Challenging and stimulating professional books and pamphlets are available. Improved new language textbooks accompanied by teacher manuals for aid in implementation continue to be published year after year. Attendance at summer school, participation in in-service education programs, workshops, and curriculum committees gives evidence that teachers are raising their sights and attempting to plan and to guide a twentieth century program of writing for twentieth century boys and girls.

Teachers generally accept and strive to make provision for individual differences particularly in reading. These differences are just as broad and striking in language competencies. Upon school entrance children possess the two vocabularies—hearing or comprehension and speaking. The school must add a reading and an automatic writing vocabulary. A child will respond to learning situations in terms of his own background of experience, his physical condition, his social relationships, his emotional stability, his interests, his needs, and his innate abilities. Some children will need much help and guidance in writing and their simple products deserve recognition, fair consideration, and merited praise. Others may be verbally gifted and express themselves fluently, effectively, and easily both in speech and writing. They too need recognition, consideration, and praise but the kind and amount should differ from that given the first group. Good education should increase individual differences in the field of writing as in all other areas.

Although readiness for learning has been most widely emphasized in learning to read, it exists in all learning situations at all ages. Readiness for writing implies a mind so filled with ideas that the writer is concentrating on conveying his thoughts and the handwriting and spelling serve as automatic tools for transmission of them to paper. Too often no readiness development precedes children's writing. Lack of stimulating preparation combined with staring at a blank page induces a sterile mind.

In the development of vocabularies, speech precedes writing and free-flowing discussions act as stimulating warm-up periods. The minds of children as well as those of adults catch fire from the thoughts of others; one idea evokes another; different phases, aspects, details, impressions, and experiences emerge. Children will copy from each other and/or the writing will all be alike? There is so much to be said, each will have to make his own personal choice.

In the readiness period mindset is developed, interest is aroused, and pupil purpose is established. Special vocabulary is identified and if necessary to anticipate spelling difficulties, it may be listed on the blackboard. A brief review of "what we need to remember in writing" may be quickly conducted and then pencils will race across the paper.

Learning Activities And Writing

Emphasis upon comprehension and understanding is a factor which is characteristic of the modern elementary curriculum. A related concept is that the greater the comprehension, the longer will be the retention. Consequently, schools of today are "doing" schools in which children actively participate in learning situations. Reading is no longer relied upon as the only avenue of learning. As the scope of learning activities widens, the use of writing as an integral part or as an outgrowth increases.

The majority of these learning activities require or promote writing. In a modern thinking, doing, learning program, there is no need for "manufactured" topics or occasions for writing. A functional writing program grows naturally out of the children's own experiences.

Multiple Learnings In A Sixth Grade

The compartmentalized daily program with specific time allotments for language instruction persists through teachers' very real over-conscientiousness. Many are concerned if children do not have direct instruction in every competency in the sequence indicated by a curriculum guide, course of study, or by the prescribed textbook. Such sequential presentation may be logical but it has no psychological base for learning.

Although the term "integrated" has appeared widely in educational literature the past twenty years, to many teachers it remains an abstraction with no relation to classroom activity. In substitution, the term "multiple learnings" seems to be more meaningful to teachers and parents alike. It is used to describe those situations in which many learnings are occurring simultaneously in a unified manner. In watching a sixth-grade class prepare for the study of a social studies unit, some of the multiple learnings to be observed were: discussion (oral language); vocabulary development; social studies concepts; formulation of questions; organization of questions into an outline for guide in subsequent study.

Throughout the social studies unit, the children were constantly making use of oral and written language. The writing production included note-taking, summaries, reports, articles, records, explanations and captions for charts, graphs, diagrams, nad construction logs, a class diary, a class scrapbook, announcements, invitations, business letters, and a dramatization for a culminating activity.

The social studies learning activity was full of rich possibilities for functional writing for individuals and the group as a whole.

When the class concluded their study, they dictated to the teacher with her aid and guidance the points which they believed to be the most important and which they should remember. Six major generalizations were listed in a simple one-step outline. The children then individually wrote his own summary. Point I in the outline was developed into the topic sentence of the first paragraph. The amount and length of expansion of it varied from pupil to pupil. The same procedure was followed with each point in the outline and each then had an original article which expressed the major concepts of his study. Not only was this functional writing but it is a perfect illustration of multiple learnings in action. Sentence construction, paragraph construction, grammar, choice of vocabulary, capitalization, punctuation, form, handwriting, and spelling were tools necessary for the narration of social studies learnings.

These articles were evaluated by the teacher to determine the clarity and extent of understanding of social studies concepts; at the same time errors in construction, mechanics, grammar, handwriting and spelling were noted. The latter, listed according to each individual's performance, made evident specific needs and those needs common to many in the group.

Learning Activities
Teacher-pupil planning
Discussions
Club meetings
Panels
Telling-listening
Interviewing
Conversation
Reading
Observing
Experimenting
Demonstrating
Exhibiting
Constructing
Taking field trips
Using audio-visual aids

RESULT IN

Writing Activities
Taking notes
Outlining
Summarizing
Recording
Reporting
Preparing minutes of meetings
Letters; notes
Articles
Explanations
Descriptions
Captions
Diaries
Logs
Announcements
Invitations
Messages
Greetings
Notices
Stories
Poems
Autobiographies
Scrapbooks
Class newspapers

The method used to indicate error will condition acceptance of responsibility to overcome it. A sheet bristling with red marks arouses a feeling of rejection and the receiver's immediate impulse is to crumple the sheet and throw it away. If on the other hand, a teacher writes in all the corrections, learning opportunities are being denied the children. Light checks in the left-hand margin may indicate an error is to be found within that line. In this situation, the teacher had worked out with the children a code system to indicate the type of error which the child was to locate and correct (sp.:spelling; cap.:capitalization; punc.:punctuation; etc.).

The articles were returned to the children and were used in a definite language period. As each worked on his paper, some needed assistance. The teacher moved from one to another and in some cases children conferred together. Language textbooks were referred to and thoughtfully used. At the close of the period, the children dictated to the teacher the types and kinds of errors they had made. Each knew his own peculiar learning problems but together they identified those that seemed to present a common problem to many of the group. Positive and constructive consultation on learning needs pays large dividends. Although teachers are aware of why a particular lesson is being presented, children often fail to connect the specific learning with their own writing performance.

Direct instruction in a specific language period was scheduled for work on the writing problems that the group had identified as common. These direct instructional periods varied according to the need for them. Some might be brief; others would need longer periods of time. They might occur daily for some time and then possibly be needed only once or twice a week.

The language textbook was used as a reference handbook. By table of contents or index, the children located the material pertaining to their particular problem. These children had not started on page 1 and progressed page by page through the book. The teacher had made for herself an outline of the areas and specific competencies presented. As need to study one arose, it was located and since the children saw a real reason for mastering it, work was accomplished with vigor and dispatch. The teacher's experience with this method indicated that by the end of the year, the children would have had need to study most of the learning problems. If any had not been touched, and any pressure was felt that all should be presented, the last month could be devoted to these with special reference to them made in daily writing.

The Over-All Writing Program

Emphasis has been placed exclusively on the functional use of utilitarian writing. As valuable and as important as it is, however, a program concentrated on this one aspect alone would be unbalanced and would meet only a part of the child's total needs. Creative writing of stories, poems, dramatizations and yes, even essays have

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SCIENCE ON THE TV SCREEN

Kenneth L. Spaulding
Instructor, Greater Boston Academy, Boston, Massachusetts

Television programs for science-minded youngsters, their parents, and their teachers may be seen regularly by as many as 75,000,000 TV watchers in the United States, for there are currently better than 24,000,000 sets in homes. Certainly the children in those homes see these science programs, for in areas where surveys have been made it is found that children watch TV at least an hour a day, and in some areas the total is near twenty hours each week.

What are the programs in science? They fall into three classes. The science-fiction story has caught the imagination of youngsters, and on many playgrounds there are more space helmets than there are six-guns. The science involved does not often outrage scientific principles, and writers and actors apparently are thinking of what might well become fact. The second group is produced by educational institutions such as museums and school departments, city or state-wide. These are for public consumption and are meant to be both entertaining and educational. The third group consists mostly of classroom material of high interest which can best be presented by this medium. This Fall will see several state or city-wide installations experimenting with TV using the UHF (ultra high frequency) channels reserved for educational purposes by the Federal Communications Commission.

Some cities have not waited for the UHF channels to become available, but have used commercial facilities. Among these is Oklahoma City, where the Creative Crafts program channelled over WKY-TV for 36 Saturday mornings has touched enough people to get 1300 letters a week praising it. It is sponsored by the Community Workshop of the city libraries, and shows youngsters how to use their creative ideas to make things, useful in school and at home, from scrap materials. There were 17,228 worksheets sent out last year to interested pupils; clerical help is furnished by the Junior League.

Baltimore learned, during a recent teachers' strike, that pupils would watch classroom teaching on television. Now there is a Department of Television and Radio, with a supervisor and several staff members. WBAL-TV and radio, WAAM-TV, and 65 travelling TV sets service the schools. The Baltimore Sun's mobile unit reports to classrooms via TV when it goes out to see how Chesapeake Bay's famous oyster industry is doing.

Washington, D. C., was an early pioneer, and is planning on new programs in the Fall of 1953. Science programs have been easiest to do, and have been popular, but the field of government under the larger heading of social studies will be a natural development in the capital.

Boston is building the first New England educational UHF station, and its sponsors are most of the collegiate and educational agencies in the area, loosely allied under the Lowell Institute, long a force in bringing forums, informative speakers, and controversial issue before the public via radio.

More than 100 TV stations were recently polled to discover what programs had been regularly on the air during the school year 1952-53. Forty-three stations sent in information as to their science programs and went into some detail as to the nature of the shows.

Science Laboratory KRON, San Francisco
Mr. Wizard NBC
The Nature of Things NBC
Kieran's Kaleidoscope
American Inventory WPTZ, Philadelphia
Halls of Science KNBH, Hollywood
Tales of Tomorrow WABC, New York
Space Patrol ABC
The Johns Hopkins Science Review Dumont
An Evening on College Hill WJAR, Providence
Soil Conservation WJAR, Providence
Small Fry Science WJAR, Providence
Ding Dong School NBC
What in the World CBS
Captain Video Dumont
Superman
Look, Daddy WAFM, Birmingham, Ala.
You and Your Health WBZ, Boston
Science Sketches WBZ, Boston
Wonder World WBZ, Boston
Tulane Close-up Time WSDU, New Orleans
How's Your Health WGN, Chicago
Knowledge in Action, WMBR, Jacksonville, Fla.
This Amazing World WOOD, Grand Rapids, Mich.
Live and Help Live WBAL, Baltimore
It's Worth Knowing WCBS, New York
Your Family Doctor WMAR, Baltimore
Your Child in School WMAR, Baltimore
How Does It Work KTTV, Los Angeles
Nature Trails WSPD, Toledo
University of Michigan Hour WKZO, Kalamazoo, Mich.
Zoo Parade NBC
Door of Knowledge WOW, Omaha
Let's Find Out WSM, Nashville
Nature Museum WBTV, Charlotte, N. C.
Super Circus
Prescription for Living WXEL, Cleveland
Meet Me at the Zoo CBS
Science Laboratory KRON, San Francisco

During the summer of 1953 other science programs were on the air. Among them were:

Rocket Rangers WNHC, New Haven, Connecticut
Operation Neptune WBZ, Boston
Atom Squad NBC
Mr. Science WJAR, Providence
Boys Railroad Club WBZ, Boston
Birds for the Kids WJAR, Providence
Industry on Parade WBZ, Boston

This is You, America
Adventures in Africa WNHC, New Haven
Animal Fair WBZ, Boston
Adventure-American Museum of Natural Science

The descriptions of the contents of programs which follow will help to point up the variety of approaches and their slant towards education.

SPACE PATROL

Space Patrol is a lively and exciting adventure-series of life as it may be anticipated in the world of tomorrow, based on the activities of an interplanetary "Space Patrol" and its crew who maintain peace among the system of planets.

A typical plot in the program is centered around the interplanetary theft of secret electronic formulas that are important to all the various peoples of the planetary system.

There is a man-made planet, "Terra," that is the storehouse of these very important documents. The story is filled with all kinds of ordinary adventures that might happen today, but dressed up in the garb of what the future is expected to look like.

WONDER WORLD

One television program that is designed to be educational, entertaining, and interesting all at one time is *Wonder World* presented weekly by the Boston Museum of Science. This program is an outgrowth of "Living Wonders," concerned mostly with animals. However, "Wonder World" presents all the various phases of science, not just those connected with natural history.

Many of the programs are inspired by some commonly-held, although unscientific, belief. The programs show how such a belief came into existence, and then show the false conclusions that have been drawn. One program of this sort was based around the idea that most snakes and spiders are poisonous. The poisonous living things of the world were reviewed by exhibiting them in their proper order of classification. Those shown were reptiles, mammals, mollusks, spiders, plants, and insects.

Another program in physical science was concerned with liquefied gases. Sub-zero temperatures were obtained, and the reactions of various things at these temperatures, were shown, including liquid helium rarely seen by the public.

Many of the materials and props for this program are supplied by the museum and others are obtained from the universities and research organizations located in the area. The size of the audience is such that extensive preparations are not considered too expensive or time-consuming in most cases. The personnel of the show are mostly from the museum's education and planetarium departments.

YOUR FAMILY DOCTOR

A program incorporating entertainment as well as education is *Your Family Doctor*, seen in the Baltimore area and produced by the City Health Department. Responses from teachers and individuals in the area show that many elementary, junior high, and senior high school pupils are found in the audiences. Some program-scripts have been sent out to teachers who have requested them for further study in the class room.

The aim of the program is to present timely and accurate information on various common medical procedures. This is accomplished by close cooperation with the State Medical Society and the Bureau of Health Information of the City Health Department.

The family doctor portrayed here is not a specialist, but is the old-fashioned family doctor who deals with all diseases. The character is portrayed by an actor, not a doctor, mainly for ethical reasons. Most of the other characters portrayed are played by members of the amateur theatrical groups of the area. The personality of the doctor is restrained and friendly.

A typical program would begin with an introduction on the importance of your blood pressure by showing a man exercising, and the relationship of his blood pressure to the increase in activity. The next scene would show him entering the doctor's office for a blood-pressure check.

At this point the doctor brings out the sphygmomanometer and explains its use as he demonstrates by taking the blood pressure of the patient. It turns out that the patient has a healthy heart, but the doctor continues to explain just how the circulatory system works and describes the various parts. Sophistication is added to the program by presenting a specialist upon the subject, perhaps from the University of Maryland or Johns Hopkins School of Medicine.

NATURE OF THINGS

Perhaps the oldest science television program is the one called *Nature of Things* presented weekly by the National Broadcasting Company. The program is centered around one man and his demonstrations of many simple things that illustrate scientific principles. The personality of the professor and his attractive way of presenting difficult topics make him the teacher of probably the largest class in educational history. Dr. Roy K. Marshall, the demonstrator, is a scientist, an educator, and an actor—all of which contribute to his success on "Nature of Things."

Most of the programs are centered around some very highly technical scientific truths, but such practical applications are brought out that most every one wonders why the thing had not been evident to him before. A lot of the programs are industrial applications of these scientific facts, and so become of importance to the listener. (Some of the topics for discussion have been "The Human Eye," "Discontented Atoms," "Ancient Timekeepers," and "How Insects Multiply.")

Since explanations are made so clearly, most educators consider this program a good one for children at the elementary, junior high, and senior high school level. It has been said that probably no other program on television can say that every person within reach of a television set has seen it.

MR. WIZARD

Another show of the experiment demonstration type is *Mr. Wizard*. This show is similar to *The Nature of Things* in background except perhaps "how" is more the subject of explanations than "why" as is the case in many of the programs. The presentation is varied in that a dialogue is carried on between Mr. Wizard and a child of about 10 or 12 years of age.

The subjects of discussion on the program are generally things of a very commonplace nature. Although many hours of laboratory preparation are required for some of the demonstrations, most of them are not doctored to come off a certain way. As a result, sometimes some

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TECHNIQUES FOR THE TEACHING OF SPELLING

Margaret Keyser Hill
Sacramento, California.

The frequent criticism that schools are no longer effectively teaching the skills and tool subjects includes the statement that pupils do not learn to spell by our present methods of teaching. However, it is recognized by observant classroom teachers that there are pupils who can spell all the words presented without study and that there are also pupils who need to study every word presented in the spelling list. This variance in spelling ability within a single classroom makes the teaching of spelling difficult. Kyte[1] states

> In the teaching of spelling, efficient learning is based upon (1) the acquisition of a method of mastering the words; (2) the development of an ability to be aware of spelling errors and correct form (3); the development of pride in spelling words correctly.

The teacher's problem is to devise plans, methods, and techniques which will accomplish these goals.

The acquisition of a method of mastering words implies that a systematic procedure should be adopted and that this method should be supplemented by techniques which will eliminate the spelling errors of pupils who have specific difficulties. Therefore the teacher should be aware of the best procedures to use as a basic approach to spelling instruction and how to enrich these procedures with supplementary activities designed either to increase spelling power through elimination of specific errors or the utilization of techniques which promote independence. The teacher must provide for the balance in the use of the basic method and the supplementary activities. Neither is a substitute for, but each should be a re-enforcement of, the other. In other words, both are needed for an effective spelling program.

The basic methods most commonly used are the test-study plan and the study-test plan. Regardless of which of these plans is used, it is important that the pupil develop a systematic method of studying the words. This study should include the following steps:

1. Correct pronunciation of the word.
2. The meaning of the word should be clear.
3. The pupil should obtain a correct visual image of the word.
4. The pupil should study the word silently for a minute or two, noting the correct sequence of letters, any familiar parts, etc.
5. The pupil should attempt to spell the word, and then check to see if the spelling is correct.
6. Words mis-spelled need to be re-studied. Words spelled correctly will need to be reviewed frequently. Over-learning is needed if a word is to become a part of the pupil's spelling vocabulary resulting in the spelling becoming an automatic response when needed in writing.

It may be necessary to demonstrate to pupils the value of a systematic method for studying the words. This can be accomplished by simple experiments conducted in the classroom. An example of such an experiment to demonstrate to pupils the need of frequent review of spelling words could be conducted in the following manner:

1. For a month omit the review parts of the spelling lesson if these are included in the spelling text. Teach the regular spelling list as usual.
2. During this month provide the following:

Week I

Teach only the basic word list provided for the week. Select five of these words to be used as review words throughout the experiment. Include these five words in the lessons for weeks II, III, and IV as the review words.

Week II

Teach the basic word list provided. Select five of these words to be used as review words throughout the experiment. Include these five words in the lessons for weeks III and IV as the review words. Review the five words selected from the word list for week I.

Week III

Teach the basic word list provided. Select five of these words to be used as review words throughout the experiment. Include these five words in the lessons for week IV. Review the ten words selected from the word lists for weeks I and II.

Week IV

Teach the basic word list provided. Review the words selected from lists for weeks I, II, and III.

Week V

Delay two or three days following the final test for week IV. Then administer a test which includes the following:

(1) five words reviewed from the list for week I
(2) five words not selected for review from week I
(3) five words reviewed from the list for week II
(4) five words not selected for review from week II
(5) five words reviewed from the list for week III
(6) five words not selected for review from week III.

In scoring the papers give each pupil opportunity to note the number of words spelled correctly, classified according to

(1) words not reviewed
(2) words reviewed one time (week III)
(3) words reviewed two times (week II)
(4) words reviewed three times (week I)

A discussion of results for the class as a whole, and for various individuals should follow the experiment.

[1] Kyte, G. C., "When Spelling Has Been Mastered in the Elementary School" *Journal of Educational Research*. 42:47-53, p. 47.

The teacher may devise similar experiments based upon any aspect of the method which needs demonstration.

In addition to the basic method employed, the teacher will want to provide other types of help. These practices have proved useful to classroom teachers in helping pupils to become better spellers.

Use of a Basic Reference List

The basic reference list may be made up of (1) words which pupils need in order to write about certain topics, or (2) words which are of persistent difficulty. The list may be posted for classroom use, or a reference list may be made for an individual pupil. The lists should be arranged alphabetically, printed clearly, and be a reasonable length for the pupil who is expected to use it. The use of the list should emphasize that it is better to look up the spelling of the word than it is to make an error. The pupil should also be aware that the dictionary and the spelling list are references for correct spelling.

Application of Word Analysis Knowledge

Pupils have acquired many techniques of word attack in reading which may be applied to spelling problems. Many of the general principles for word analysis are the same for both reading and spelling, as (1) the word is seen and pronounced as a whole; (2) the word is divided into smaller parts (pronounceable units); (3) attention is called to the known parts of the word; (4) the whole word is re-studied; (5) other words which have similar phonetic construction may be reviewed or studied; (6) attention is called to the fact that there are exceptions which do not follow the principle, and thus these principles are only an aid to spelling; (7) if in doubt about the spelling or pronunciation, consult the dictionary.

The aspects of word analysis which have proved particularly useful as aids in spelling have been (1) development of auditory and visual discrimination, (2) the use of prefixes, suffixes, compound words, etc., (3) teaching the most common spellings of certain sounds in our language, and (4) the use of substitution of a sound (spelling) in order to spell a different word. Some examples of these aspects of word analysis follow.

Auditory and visual discrimination are the basis for real use of phonetic and structural analysis. Before a pupil can apply a phonetic principle he must be able to hear the sounds in words. Before a pupil can identify parts of a word structurally he must be able to note similarities and differences in word forms.

If the pronunciation of phonetic words does not aid a pupil in spelling the word correctly, it would be wise to investigate his auditory discrimination ability. This may be done by giving an informal test in which the pupil is asked to write only certain portions of words, such as: (1) write only the letter these words begin with (to see if pupil hears beginning consonants); (2) write only the two letters these words begin with (to see if pupil hears beginning consonant blends); (3) write only the endings of these words (to see if pupil hears plurals, variant forms, etc.); (4) write only the vowel you hear in these words; (5) write the number of syllables you hear in each of following words. In constructing such a test, care must be exercised in the selection of the words, and any answer which is phonetically correct must be scored as correct. Some training in auditory discrimination should be provided for pupils who show a deficiency in this area.

Visual discrimination training will give a pupil practice in noting the small differences in words, and in paying close attention to the sequential order of the letters. Practices in the finer types of discrimination will be most useful, such as:

Find the word that looks different from the other words.

1. their there their

Practices which require visual memory will also be helpful. For these exercises select words which are (1) commonly confused, or (2) have presented some difficulty in spelling.

These practices may take any one of many forms. Most often the flashcard is used as the quick exposure device. That is the selected words are printed on cards and shown to pupils for a short exposure (usually about five seconds.) These two types of practice have proved especially beneficial.

1. Mark the word which you see.

   The teacher prints the stimulus word on the flashcard. When she gives the direction "Look" the card is exposed for approximately five seconds. At the direction "Mark", the pupil draws a line under that word on his paper.

   (1) phase phrase
   (2) verify notify
   (3) convert convent

2. Write the word you saw.

   Print the selected words on flashcards. Have pupils number papers so the place is easily kept. When teacher says, "Look", the word is exposed for approximately five seconds. Allow pupils a reasonable time to write the words.

The general principle of look-alike—sound alike which is developed in most combined audio-visual lessons should emphasize to the pupils that some words having similar sounds have similar spelling. When the lesson progresses to the point that the pupil supplies words that begin or end like the stimulus word, it will soon be demonstrated that there are exceptions to these principles.

In the teaching of exceptions pupils may see that the same sound has more than one spelling, as the *ou* in br*ou*ght and c*ou*ld. Exercises in which the pupils mark the one word in which *ou* does not spell the same sound may be used. Similar exercises may be constructed which use sounds and spellings which have caused difficulties.

The substitutions and combinations of sounds and letters may be used to demonstrate to pupils that they have developed some ability in spelling. This may be accomplished by (1) making word lists, as: use *all*, and see how many words you can write by adding letters in front of it; (2) use *re* and see how many words you may write by adding other words to it; (3) how may words can you write that rhyme with *tough* (They do not have to have a similar spelling, as cuff.) Use the dictionary to see if you have spelled the words correctly. This demonstration that a pupil has some tools to aid him with spelling may help to develop a sense of pride in correct spelling.

Use of Corrected Spelling in all Writing

The real test of effective spelling is whether the pupil can spell enough words to meet his writing needs. This can be promoted through a program which provides a real need for writing, and which allows the pupils to use frequently in writing the words learned through systematic

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DEVELOPING GOOD READING HABITS IN THE SOCIAL STUDIES

Gertrude Whipple

Division of Instruction, Detroit Public Schools and Associate Professor of Education, Wayne University, Detroit, Michigan.

Every social-studies teacher faces the task of teaching reading. The teacher accepting this responsibility is concerned with many important issues relating to the use of books in social studies, for example, the best organization of the reading activities during a social-studies unit, teaching methods which will make the reading purposeful, and proper approaches in clarifying unfamiliar vocabulary.

In searching for help on these practical problems, we shall do well to keep in mind two major points. First, reading activities in any area of the curriculum are of value only as they serve the objectives of that area. In social studies reading should contribute to the attainment of these goals: developing the social learnings essential to democratic living and helping the child to become a democratic person with social attitudes, group-action skills, and a grasp of the basic understandings of how man interacts with his physical and social environment in satisfying his needs. Second, important as reading is in promoting these objectives, it is only one type of learning experience in the total learning pattern. There are numerous other helpful experiences for children such as taking excursions, collecting, experimenting, interviewing, demonstrating, exhibiting, discussing, listening, and televiewing.

From this viewpoint, let us consider certain basic questions a teacher asks when he wishes to increase the efficiency of children's reading in the social studies.

Should Reading in the Social Studies Be Organized Like a Conventional Reading Period?

In conventional reading the book is taken as the point of departure, the children are expected to read it sequentially, and often orally, and, after reading an assigned section, they are usually asked fact questions about what they have read. Such a procedure is a poor method of guiding any reading for these reasons: It neglects to develop readiness for the reading, takes no account of individual differences, and is likely to lead to memorization of the facts covered in the questions.

Unlike conventional reading, successful reading activities in the social studies are organized in close conjunction with the other aids to learning. Often other steps are taken first, relating the unit to the child's experiences, building up an experiential background, identifying problems to be clarified, and establishing vital motives for reading. Then the books to be read serve as important sources of information to extend understanding. In other cases pictures or maps or statements in books may be used to raise problems, which are then solved by reading and other activities.

Let us illustrate a possible approach in reading in connection with a farm unit designed to help city children in the fourth grade understand how we get our food. Class discussion is begun about the foods we find in our supermarkets: Where do the foods come from? Are most of the plants and animals from which we get food wild, or do men raise them? Showing pictures of farms, the teacher guides the class in establishing such points as these: (1) men make their living by raising plants and animals from which we get food; (2) the places where food is raised in large quantities are called farms; (3) there are different kinds of farms.

Next the teacher calls attention to the kind of farm which the children are going to read about first, for instance, the corn farm. He asks where they have seen corn growing, whether all the corn we grow is eaten by people, what kinds of work the farmer has to do in growing corn, and the like. Questions for which the children do not have adequate information are listed on the board as a stimulation for reading and inquiry. If possible, the children are taken to visit a farm, preferably a corn farm, and are encouraged to note the activities in process at the particular time of year, to observe the buildings, animals, and machinery, and to talk with the farmer about his work. The teacher also shows suitable movies or filmstrips, and encourages discussion of significant points. The children may plant corn in the school garden, if it is spring, and watch its growth. In the course of these activities important words to be met in reading are introduced and explained, and an experiential background of ideas is built up which will make the reading more intelligible to the children. The group examines and discusses the pictures in the material which they are to read silently to report on to the class. For example, the reading may be done to discover more about how corn is planted, how cornfields are weeded, what the corn needs to make it grow, how corn is harvested, or how it is used in the United States.

The group reporting sit on chairs in a semicircle facing the class. The other children, too, are arranged for maximum face-to-face relationships. First, the slower pupils are encouraged to tell what they have learned. Next the more capable pupils are invited to fill in missing information and to interpret major points such as why corn and meat production go together. By such means reading is closely related to other methods of learning and is used to broaden and enrich the child's concepts to the extent of his individual capacities.

How Can I Guide Children's Reading So That It Will Be Purposeful?

The efficiency of reading will be measurably increased if it is skillfully related to the children's purposes. Several studies have shown that reading in schools utilizing the children's own purposes is superior to reading in schools

stressing assigned lessons. In other words, a child's comprehension is determined in part by what he intends to get from the printed page. If he wants to read and sees an important reason for so doing, he will remember more of the social-studies content and is much more likely to see its applications.

A classroom environment rich in stimulation for the encouragement of questions and projects is indispensable to purposeful reading. In such surroundings the children will naturally raise questions and suggest reading activities, and the reading can be designed to satisfy the children's inquiries, rather than the teacher's. It is apt to be real to the individual child, and not beyond his comprehension.

Also, in approachig a new unit in the social studies, the teacher may well ask what specific topics rank highest in spontaneous interest appeal. By beginning with these phases, the teacher can often develop such interest in the unit as a whole that the children will wish to explore every aspect of it discussed in their books.

Varied approaches to the reading are of great value in arousing the child's curiosity and starting him on a search for new understanding. After a unit is introduced, one reading activity may call for two periods of silent reading to find more about various articles and models that the children have brought to class such as a covered wagon, or a miniature fort or log cabin. On another day the entire group may read a limited section in a textbook to discover, perhaps, how the pioneers preserved their food. On still another day there may be a planning discussion concerned with the techniques the children should use as they read material for a given purpose such as to solve a problem. Before this day's reading a few suggestive techniques are compiled by the teacher and children and listed on the board, as a guide in relating the reading to the subject under discussion. Example for Grade VI:

> Understand the problem before reading.
> Keep the problem in mind while reading.
> Read carefully what bears on the problem.
> Pass over that which does not.

On the other hand, when the reading activities fall into the same pattern day after day, they become monotonous and discourage the discovery of solutions to personal problems. Especially should we avoid questions centering the child's attention on getting exact meanings of sentence after sentence.

What Methods Aid in Teaching Unfamiliar Words?

As Bacon has said of books, we might say of words: "Some are to be tasted, others to be swallowed, and some few to be chewed and digested." These last, of course, are the words important to the social studies.

The choice of the words to be taught should be made by the teacher because scientific studies have shown that most children cannot identify their own vocabulary difficulties. Also, it is known that direct instruction on words in context is superior to incidental instruction or to the teaching of words in isolation. Since the meaning of a word often depends upon the context in which it appears, we should develop the child's ability to discover the clues to meaning which the context supplies. For instance, the word may be defined in the sentence, or the child may be able to supply a word that makes sense, or the passage may indicate that the new term is another word for a familiar idea, or the new word may sum up several ideas that have preceded it, or the general tone of the sentence or passage may offer clues to the meaning.

Among the specific teaching methods advocated are introducing words in the pre-study activities; having students check the meanings and pronunciations of important words using various clues and the dictionary after they have been taught to use it; providing firsthand experiences; using films, slides, pictures, models, and exhibits when they can add richness to the meanings; and giving careful explanations together with illustrations of the use of the word.

In the case of many important social-studies terms, children cannot attain a complete understanding of the term all at once. Often the word indicates an important concept which must be built up gradually through the elementary school. Take, for instance, the word "mountain." In Grade III, children can learn that mountains rise far into the sky and that some are covered with snow all year round. They can note some of the activities that men carry on in the mountains. They can draw sketches to show mountain peaks and mountain ranges. As the children advance to higher grades, this very meager concept should be greatly enriched. They will learn that mountains rise high above sea level, that the vegetation changes as we climb a high mountain, that mountains are lifted above the sea by movements of the earth's crust, and that rivers, over long periods of time, gradually wear them down again almost to sea level.

How Can I Promote Good Comprehension of What Is Read?

As a result of many studies, we know that comprehension is not a single skill but a complex of many skills, abilities, and attitudes. Russell[1] indicates that comprehension operates on several levels. The simplest level is recognition and understanding of the words. More complex comprehension includes memory of the ideas. At a third level, the reader relates and classifies the ideas to reach a generalization. Finally, comprehension can reach the level of interpretation—that is, the reader fully utilizes the ideas. These levels suggest the general direction in which we should work in improving comprehension. We should never be satisfied merely with a good oral reading of the material without a clear grasp of its meaning and underlying implications.

There are certain specific reading habits that will promote better comprehension in the social studies. Much of the material that the children read here is located in space and time. As soon as they have learned to interpret maps, they should be taught to find out *where* a place is before they read about it—in what continent or country or state, in what direction from one's home, how long it might take to get there, and what its location is with reference to features of the earth which they have studied about. Comprehension will be greatly improved if children are shown how to study a map in the book before they commence to read the accompanying text.

Likewise children must be taught to find out *when* important events happened. To this end they need definite guidance in noting and interpreting time phrases as they read (e.g. "in 1800," "the turn of the century," "meanwhile," "a decade," "in ancient times".) As they ad-

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[1]Russell, David H., *Children Learn to Read*, pp. 80-81. Boston: Ginn and Co., 1949.

Joseph G. Dzenowagis
Assistant Professor of Education, Sargent College, Boston University, Boston, Massachusetts.

CHILDREN'S MISCONCEPTION ABOUT SAFETY – A CHALLENGE TO TEACHERS

Our school children spend many years acquiring knowledge that will help them lead happy, successful lives. During these years they also acquire false ideas. Many of these ideas are harmful safety misconceptions which may be fatal or injurious if used as the basis for action. Do your pupils believe these misconceptions?

1. The only good way to help a drowning person is to jump into the water to save him.
2. If your clothing catches fire, you should always run for water.
3. Bicycle riders should ride on the left-hand side of the road to be safe.
4. It is safe to cross the street without looking when the traffic light is yellow and red.
5. It is generally a good idea to have a radio in your bathroom.

Chances are that many of your pupils subscribe to these and other harmful safety misconceptions.[1] This prevalence of dangerous safety ideas among our school children presents a serious challenge to every classroom teacher since it is the responsibility of each classroom teacher to help children to lead a safe life. This challenging task cannot be accomplished unless the harmful safety misconceptions of children are identified and corrected before they lead to undesirable behavior.

How can teachers go about meeting this challenge? First, by realizing that many of their pupils may harbor dangerous misconceptions about safety. Second, by recognizing the possible harmful effects of these misconceptions in relation to attitudes and behavior. Third, by selecting and organizing subject matter and providing experiences which will lead to the elimination of the prevalent safety misconceptions of their pupils.

Here are some of the harmful safety misconceptions that may be prevalent among your pupils and some pertinent information concerning them. They may help serve as guides in the selection and organization of subject matter and experiences in the area of safety.

Safety in Swimming

"The only good way to help a drowning person is to jump into the water to save him." This erroneous idea proves fatal to many people who attempt to rescue a drowning person because they take the obvious instead of the correct action. They neglect to utilize other means of rescue that may be available such as: extending a ploe, trousers belt, life preserver, rope, or other suitable object that the victim can grasp. A person should jump into the water only as a last resort, and only if he is capable of using proper methods of rescue.

"It is always impossible for a person with cramps to swim." A false belief of this nature does nothing but contribute to a swimmer's panic at a time when proper action and calmness are urgently needed. Strong cramps may lead to drowning, but there is no need for a swimmer to allow a possibility to turn into a probability by letting panic hinder his efforts. Most cramps in the foot, the calf of the leg, the back of the thigh, and the hand can be relieved by taking proper action. A person who acquires a muscle cramp can take a deep breath of air, roll to a position face down in the water, and apply pressure and massage to the muscle cramp with one or both hands to obtain relief.

Some other common errors made by swimmers include the following: swimming alone, swimming when fatigued, diving into rocky or shallow water, depending on inner tubes and water wings for support, entering suddenly into cold water, and swimming a long distance from shore instead of swimming along shore.

Safety for Pedestrians

"It is safe to cross the street without looking when the traffic light is yellow and red." Many pedestrians are killed or injured when they act in an unsafe manner. The pedestrian has the responsibility of protecting himself from harm by being careful. Many pedestrians think it is perfectly safe to cross at a traffic signal without looking for approaching motorists. The traffic signal gives them a false sense of security that may make them victims of the motorists who ignore or do not see the signal. In some situations, traffic lights do not make allowance for turning cars, or do not give the pedestrians time to get all the way across the street. Pedestrians should remember that traffic lights indicate danger and do not insure their safety.

"People should walk on the right hand side of the road if there are no sidewalks." A person who uses this idea as a basis for action does not give himself adequate protection from motorists. He risks injury or death by not being able to see or avoid motorists approaching from the rear. He should protect himself by walking on the left-hand side of the road facing approaching motorists so as to quickly move out of the way when necessary.

Fire Safety

"If your clothing catches fire, you should always run for water." A mistake of this nature usually results in injury or death. Therefore, an individual should be safety

[1]Joseph G. Dzenowagis, *A Determination of the Prevalence of Certain Harmful Health and Safety Misconceptions among Fifth and Sixth Grade School Children*, Unpublished Doctor's Dissertation, Boston University, 1953.

conscious to the extent that he remembers running is the worst action to take when his clothing is on fire. The proper way to extinguish a fire in clothing is to wrap a blanket, coat, rug or other similar object around the body and to lie down and roll. When a person's clothing catches fire out-of-doors, he should lie on the ground and roll over and over. If a person whose clothing is on fire starts to run, he should be tripped so he will fall to the ground and a coat or other garment should be used to smother the fire.

Safety in the Home

"It is generally a good idea to have a radio in your bathroom." Numerous accidents involving electrical appliances occur in the home. Electrocution or severe injury may result when an individual handles electrical fixtures or appliances with wet hands, while standing on a damp floor, or while in the bathtub. Therefore, an individual should know that the human body, water, and metals are conductors of electricity and must take precautions to prevent electrical shock.

Bicycle Safety

"Bicycle riders should ride on the left-hand side of the road to be safe." Bicyclists who hold such a misconception and others similar to it contribute to the high incidence of accidents involving not only themselves but pedestrians and motorists as well. Accident prevention in this area can be effected, in part, by helping bicyclists acquire certain concepts which are essential to and consistent with desirable safety practices. Bicyclists ought to know that they should:

1. Obey traffic laws and all signs and signals.
2. Ride in the same direction as motor traffic, close to the right-hand side of the street or roadway and in a straight line.
3. Indicate to the motorist by hand signal the intended direction of travel.
4. Avoid riding their bicycles on the sidewalks.
5. Avoid sudden turns or stops.

Other Safety Misconceptions

In addition to the preceding misconceptions the following are also likely to be prevalent among many children:

1. Oil, grease and gas fires should be put out with plenty of water.
2. A bullet cannot go off, unless it is fired by a gun.
3. It is all right to point a gun at someone if you are sure it is not loaded.
4. A person having a stomach ache should usually take a laxative.
5. The best way to get a tan is by sleeping in the sun.
6. A person always comes up to the top of the water three times before he drowns.
7. All mad dogs foam at the mouth.
8. Dynamite caps are always safe unless fastened to a fuse.
9. Throwing oil or gasoline on a slow fire is a wise thing to do.
10. If you meet a dog that frightens you it is always best to start running.
11. People have accidents only when their "number is up."
12. Throwing a person into deep water is a good way to teach him to swim.
13. When you are swimming it is a good joke to call for help when you don't need it.
14. Most accidents cannot be prevented.
15. The best place for shelter, during a thunderstorm, is under a tree.
16. You can always tell if a dog is friendly by his looks.
17. Most dogs do not remember the people who were mean to them.

A Challenge to Teachers

The teacher's efforts in providing learning experiences which will help pupils to live safely and develop attitudes that are necessary to safe behavior patterns will be influenced by the needs of the pupils and the method by which the school provides for these needs in its curriculum. Whatever may be the organization for education in safety, the school safety instruction program must be directed toward producing desirable changes in the behavior of the pupils. Teachers must remember that the usual laws of learning apply also to learning in the area of safety and that appropriate methods of teaching must be utilized to insure desirable results. Misconceptions concerning safety represent a lack of correct information and represent possible bases for undesirable behavior. They are needs which should help in determining points of emphasis in an effective safety instruction program. Teachers should be aware of these needs and search for ways to meet them. This is the challenge that children's safety misconceptions present to teachers.

Boners

In this course, the teacher and pupils are kept constantly on the verge of mental exertion.

A parallel straight line is one that when produced to meet itself does not meet.

Mushrooms always grow in damp places and so they look like umbrellas.

It is important to study History so that we can learn all about our descendants.

What is "LXXX"? Love and kisses.

The opposite of evergreen is nevergreen.

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Pictures should be *glossy* prints, not smaller than 5 x 7 inches.

GREENHOUSES

Now is the time to get in some woods plants for the winter. Put them into any glass container that can be kept quite tight—they like the steamy warm atmosphere inside big mayonnaise jars, pickle jars, or terraria made of squares of window glass and adhesive or Mystic tape. Place moss and dirt in the bottom, add your plants, keep the whole thing in the sun for two hours a day only, and watch it thrive. Put jars away in a cardboard box stuffed around with paper if your school freezes up at night or over vacations. A week or so without light won't hurt your greenhouse.

READING

Couldn't every child have one book in his desk just to *read,* even though he is learning to READ? Many children don't get time to establish the habit of reading for pleasure. The book had better be about one grade easier than the current reading-lesson book.

NEW WORDS

From the Watertown, Mass. biology class, comes a word wheel with three movable concentric rims. On the outside are prefixes, on the next rim root words, and finally there are suffixes on the inside rim.

"Un-intentional-ly" can be made—and some weird ones like "Inter-fractionate-ing", which means what?

This is good for science and language classes.

SPELLING CATALOG

As an aid to the teaching of spelling a catalog method can be used to advantage.

Group the common word endings, or phonograms, in columns, on two large charts labeled "Review Phonograms" and "New Phonograms". Place the charts in a strategic position.

Review Phonograms
ind ....
ean ....
ock ....
ew ....
ose ....

New Phonograms
air ....
ould ....
eave ....
ble ....
ound ....

At the beginning of each weekly spelling lesson pass out to each pupil, a sheet of rexagraphed paper ruled and marked as below:—

Sound	Little Words	Review Phonograms	New Phonograms	e on end	Study

Make a similar arrangement on the blackboard and appoint a child as Class Secretary.

As each word in the lesson is presented for study, the pupils look for clues that will decide in which category it belongs. When the best one has been agreed upon, the children write the word under the chosen heading, underlining any "helping" phonogram. Any words not included under the other headings would be listed under "Study".

Use the catalog paper as a reference for help and study during the week. Slower pupils will gain conndence when they find they can master, fairly quickly, the words under the first and second headings. With the charts as constant helpers before them they are further encouraged. Emphasis in this group will be on "getting more right than I did last week".

During the dictation lesson at the end of the week, the teacher uses the catalog heading to recall clues to correct spelling. She will also dictate the words in the catalog order. If there is doubt a child may refer to the charts, but there is always encouragement toward pride in independence.

Children become very much interested in finding clues for cataloging words. The teacher will find the device useful for helping children acquire the habit of "careful looking", so important to spelling skill. (Hilda Ames Glynn, Hunnewell School, Wellesley, Mass.)

CHALK LINES

Soak chalk in a strong sugar-and-water mixture, then write on the blackboard before or after drying out the chalk, and you will make lines that have to be soaked off with warm water. Good for gymnasium floors to outline game patterns, too.

XUM

TABLE DISPLAY

Audio-visual aids are good, and projection of pictures in the opaque projector is one of the best teaching aids. But if you don't have an OP, try placing pictures, open books, objects under a piece of heavy plate or auto windshield glass (ask the youngsters to get one—it never fails). Six little blocks will hold up the glass as it sits on the table with your precious materials spread out underneath it, safe but able to be seen "nigh to".

BIRD CHARTS

Keep a record of all the birds seen during the school year. A chart is made, with plenty of spaces for new birds, but with a basic list of the birds which children already *know* are in the neighborhood.

The rule that "two must see the new bird" is a good one, and it may mean that Mother or Father, or even the teacher, may be the "other one" to certify the appearance of the visitor.

Your local library will have books on bird identification; there are several inexpensive guides to bird identification that are sold for one dollar or less. The National Audubon Society, 1130 Fifth Avenue, New York 20, N. Y. has a catalogue of their very inexpensive bird plates and charts.

Best of all, birds furnish many opportunities for language arts activities, and for manual skills. Don't think that you can begin to study birds without eventually getting involved in bird-houses and feeding-trays! Which is to say, getting involved with mothers and fathers and perhaps the janitor! (Frances W. Rolfe, Payson Park School, Belmont, Mass.)

HOT FOOD

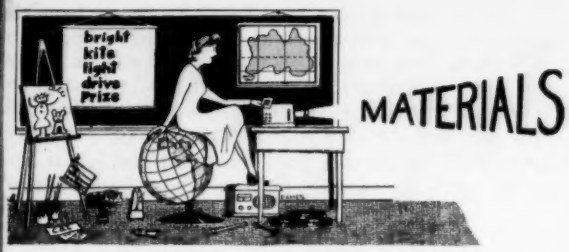
If you have a "cold lunch" period at noon, have the youngsters take turns in making one hot dish, soup, camp-style stews from cans, or chowder. Small electric stoves, the new canned-gas torches used for soldering, or HEATABS from the J. W. Speaker Co. of Milwaukee will heat your dish—because you don't need to be in a hurry. Every child has his own bowl and spoon, and learns how to dunk it in hot water you put on while you are eating.

SPELLING

One teacher takes pictures of all the signs that her children see on the way home from school. Then she teaches spelling with them! They are, after all, going to want to know not only what each sign *says*, but what it *means*.

SAFETY NOTE!

If heads get badly bumped under the jungle-gym, add sawdust, peat moss, or finely ground-up rubber to the dirt. Where to get the rubber? Ask the man who recaps tires. And of course, if there is a black-top under the swings, just tear them down or move them. They are deadly. And can anyone in your school touch a water faucet and the metal shell or pull-chain of an electric light at the same time? Sooner or later there could be a tragedy. For light sockets eventually are "alive". What to do? Put in a pull-chain socket, with an insulator in the chain, or cut it and inset a piece of string.



MATERIALS

BOOKLETS

The Resolution of Intergroup Tensions The National Conference of Christians and Jews, 381 Fourth Avenue, New York 16, N. Y. $.25 a copy. (1952) In this pamphlet, the distinguished psychologist, Gordon W. Allport, takes a constructively critical look at various methods which have come into use in recent years in efforts to reduce intergroup tensions. It should be interesting to all students and practitioners in the field of intergroup relations, and especially helpful to those teachers, administrators, and researchers who feel constantly and keenly the need for careful evaluation of the methods they use.

Moral and Spiritual Values in Home, School and Community National Congress of Parents and Teachers, 600 South Michigan Blvd., Chicago 5, Ill. (1953) Price 25 cents per copy.
This pamphlet has been prepared to help parent-teacher associations plan discussion and action that will contribute to the moral and spiritual development of children and youth.

The Teaching of Arithmetic in Schools A Report Prepared for the Mathematical Association, London (G. Bell and Sons, Ltd.), 1952. Order from H. G. Lotz and Partners, Ltd., 186-188 Shaftesbury Ave., London W. C. 2; 50 cents. This is an 82-page booklet discussing five general topics and 21 special ones in arithmetic teaching. It is both academic and arbitrary in appearance, since it consists of hundreds of separate statements concerning how arithmetic should be taught; luckily they are sound statements.

Teaching Mathematics with the Monroe Educator Educational Department, Monroe Calculating Machine Co., Orange, New Jersey. Free. This somewhat attractive booklet has definite teaching suggestions for using machines in the elementary classroom. Regardless of the title or other statements, the techniques will teach more about the machines than about arithmetic.

Desirable Athletic Competition for Children. Joint Committee Report. Order Form—American Asso. for Health, Physical Education and Recreation. 1201 Sixteenth St., N. W., Washington 6, D. C. Price 50c single copy. This report contains recommendations of desirable athletic competition for children. These recommendations are based upon the opinions of experts made in a study of the physiological factors, psychological factors, safety factors and economic factors that effect the participation of children in athletic competition. It contains a bibliography of more than 200 related articles and books.

What Does Research Say About Arithmetic? A report prepared by Vincent J. Glennon and C. W. Hunnicutt for the Association for Supervision and Curriculum Development, 1201 Sixteenth St., N. W., Washington 6, D. C. 50c per copy, discount for quantity orders. Excellent bulletin in which the authors combine research evidence and informed judgments in formulating helpful, concise answers to many questions asked frequently about arithmetic instruction by the classroom teacher: "Should children be allowed to count when finding answers of number facts?" "Snould we teach children to use crutches?" "Should children memorize the multiplication tables?" "Is there a place for flash-cards in a modern arithmetic program?" "How can we improve the ability to solve verbal problems?" etc.

Notes for the Arithmetic Teacher Series of pamphlets prepared by the authors of the *Growth in Arithmetic* textbook series. Distributed by World Book Company, Yonkers-on-Hudson, New York. Free. Very fine leaflets, providng numerous helpful practical suggestions for the classroom teacher on a variety of arithmetic topics, such as: "Current Trends in Teaching Common Fractions," "Meaningful Division," "Making Algorisms in Arithmetic Meaningful," "Improvised Aids in Teaching Arithmetic," "Arithmetic Readiness in First Grade," etc. Ten leaflets have been published to date.

The World Around You Our Natural Resources Educational Packet. The Garden Club of America Conservation Committee, 15 East 58th St., New York 22, N. Y. 50 cents. This is a folder of materials in conservation to help the teacher. Sources are listed for books and films, and actually included are: Our Natural Resources: A Study Guide; Soil Conservation Fingers in the Soil; Know Your Watersheds; Trees and Shrubs for Your Garden; Within Your Garden Wall (birds and insects); The Soil that Went to Town; and a list of hints on the conservation of wildflowers.

Science for Today's Children Thirty-Second Yearbook of the National Elementary Principal (September 1953), published by Department of Elementary School Principals, N.E.A. Building, Washington, D. C. $3.00. There are over 300 pages in this book, and it is the richest source of information on classroom activities yet published as a periodical. Fifty classroom teachers, principals, and science educators contributed. There are more than twenty excellent photographs showing children working with science in the elementary classroom.

Happy Journey—Preparing Your Child for School Published by Department of Elementary School Principals, National School Public Relations Association and the National Congress of Parents and Teachers, Washington, D. C. National Education Association 1953, 1201 Sixteenth St., N. W. Price 40c with reduction for quantities. Helpful to schools developing pamphlets for strengthening parent-teacher cooperation.

Managing the School District Insurance Program Washington, D. C. American Association of School Administrators, 1953, 1201 Sixteenth St., N. W. Price 50 cents. Helpful to superintendents responsible for recommending and managing an insurance program for the school district.

NEW BOOKS

BULLETINS ON READING

How to teach reading continues to be of concern to teachers everywhere. Materials, text books, and research reports are being published which should help in making the teaching more successful. It is interesting to note the number of such publications which are the result of co-operative efforts of people who are actually working in the field, and it indicates a new interest among teachers of many different age groups. This review will report on only three of the many recent publications, one State Department bulletin, one city bulletin, and one research summary.

The first bulletin titled: THE RETARDED READER IN THE JUNIOR HIGH SCHOOL; (1) A Guide for Supervisors and Teachers, was prepared by the staff of the Reading Guidance Center, Division of Instructional Research, New York City, and edited by May Lazar. It consists of 125 pages and is divided into two parts. Part I is devoted to the Special Reading Program in the Junior High School. The problem is clearly presented. Test results are given for the city and show that the status of reading in the junior high schools is generally satisfactory. However, it also shows there are retarded readers. *"Poor readers"* are so classed, by comparison with other children of a certain grade or age group, while *"retarded readers"* are children who fail to meet standards based on their own potentialities. Such students are always capable of improvement in reading ability. True the data given describes conditions in the New York City Schools, but it is no doubt typical of the age group in any locality. The suggestions presented should be most helpful to the junior high school teachers who are working with *"retarded readers."* Specific suggestions are outlined for selecting the students, organizing special reading programs, and evaluating these programs.

A fine list of standardized tests is given. These are divided into three groups: *Intelligence Tests;* verbal and non-verbal, *Reading Achievement Tests,* and *Individual Diagnostic Reading Tests.* In addition to this list of tests there is an outline which indicates the factors which favor or restrict the use of each test with retarded readers.

Part II is devoted to methods and materials for use in the special reading program. The suggestions are specific, clear and practical. For each part of the program there are carefully worked out sample exercises. The headings for one chapter give an idea of the completeness of the bulletin. For example, chapter ten, DEVELOPING A MEANING VOCABULARY has the following seven sub headings:

1. Extending Children's Experiences As a Source of New Concepts and Vocabulary
2. Encouraging Wide Reading
3. Making Children Word Conscious
4. Encouraging the Use of the Dictionary
5. Teaching the New Words of a Reading Selection
6. Establishing Independence in Finding Meaning from Context
7. Making a Direct Study of Words

Included in the contexual clues are samples such as the following:

"(1) A common and very helpful contextual clue that might well be used by more writers of books for children is the *definition* that occurs within the same sentence. The definition may take the various forms similar to these:

> The sabot or *wooden shoe* is worn by some French farmers.
> Polaris—*the North Star*—is one of the best known stars.
> The pup, *which is the baby seal,* can be seen on the rocks.
> Condiments, *such as cinnamon and pepper,* were once very expensive.

(2) In the above examples, the meaning of the unfamiliar words was made clear by words or phrases that were more or less synonymous. Sometimes an *antonym* or a *contrast* may point out the meaning as in the following:

> Some parts of the lake were deep; others were *shallow.*
> The mouse squeaked in a tiny voice, but the lion *bellowed.*

(3) The child's own *experience* serves to help him as in the following:

In order to free the boat he *severed* the rope with his knife. In the experience of a child, a knife is used for cutting. The phrase "free the boat" also helps give meaning to "severed."

(4) Similies are sometimes a guide. The meaning of *droned* is suggested in a sentence like this:

The speaker's voice droned on like the *humming of a bee.*

(5) The presence of *illustrations*—pictures, diagrams or maps—helps illuminate word meaning.

In order to convince pupils of their ability to use context clues, a paragraph or two may be written on the board. Blanks are submitted for certain rather obvious words like this:

> Sam used to take a good lunch with him on his hikes. He usually made some _____ of fresh bread and peanut butter or meat. Then he liked a tomato or two and some _____ like peaches or cherries. He knew that after a long _____ in the woods he would have a good appetite.

The pupils are then asked to suggest what words have been omitted and to give reasons for their choices. As was pointed out in the chapter on word recognition, this study of context is valuable in developing comprehension."

The above quotation gives one an idea of the teaching suggestions for all parts of the program contained in the bulletin.

During August 1952 the State Department of Education, Montpelier, Vermont, published its Curriculum Bulletin Number 7, entitled: BETTER READING IN VERMONT SCHOOLS. (2) This publication is concerned with the

teaching of reading in grades one through twelve. A quotation from the Foreword written by A. John Holden, Jr., Commissioner of Education, gives a good idea of the philosophy expressed throughout the publication.

"It (the bulletin) shows that good reading is essential to all levels of instruction. What's even more important, it shows that reading is a lot more than just looking at a page and saying words. It is part of the whole experience of children, and prospers as that experience is rich and accurately observed. But best of all, this Bulletin shows how various teachers at various levels have been bringing about better reading."

Teachers at every grade level, supervisors, college professors, and State Helping Teachers all worked together in the production of the Bulletin. Thirty illustrations, photographs from actual classrooms, help to make the suggestions more real. Included in the Table of Contents are such topics as:

Readiness for Reading at all Levels
Can He Sing?
Use of Teacher-Made Materials in Primary Grades
Suggested Techniques in Word Analysis
Creating Interest in Independent Reading
Reading Skills in the Intermediate Grades
Reading in the Experience Unit
Organization for Reading Instruction
Classroom Invitation to Reading
Developmental Reading in Seventh and Eighth Grades
Reading in the Six-Year High School
The Teen Age Book Club
The High School Library
Free Public Library Services
Professional Books for the Teacher

In each area covered there are many examples as well as complete directions for adapting the suggestions to other classrooms.

WHAT RESEARCH SAYS TO THE TEACHER (3) by Arthur I. Gates, published by The Department of Classroom Teachers of the American Association of the National Education in June 1953, is an important, readable contribution to the field which interprets research findings for the classroom teacher. On page two Gates states:

> "This booklet is the result of an effort to report to teachers the most important suggestions for the teaching of reading which have been produced by research. It is not a summary of research, but a statement of the practical implications of research."

An important section is the final one: TOPICS FOR FURTHER STUDY in which the author invites classroom teachers, in cooperation with directors of research or faculty members of colleges to, *"explore systematically the problems found in their own classrooms."* He raises the following ten questions:

1. What effect does the child's preschool opportunities for reading have upon his success in the first grade?
2. Are the generally "superior readers" also superior in reading success in specific subject fields?
3. Is there value in teaching study skills to pupils of all intelligence levels?
4. Are speed and comprehension always closely related?
5. Do radio programs affect the ability of pupils to concentrate on their studies?
6. Is voluntary recreational reading affected by intelligence, attitude, habits, and tastes?
7. Do children who read extensively tend to be socially acceptable?
8. Does success in reading affect a pupil's liking for a subject?
9. Are emotional difficulties always involved in the case of poor readers?
10. Does the rate of silent reading vary directly with rate of thinking?

Each question is followed by the findings of a similar study reported in the April 1952 issue of the REVIEW OF EDUCATIONAL RESEARCH so that a comparison might be made if another study was conducted in a different classroom.

Helen A. Murphy

1. *The Retarded Reader In The Junior High School: A Guide for Supervisors and Teachers.* Publication No. 31 Bureau of Educational Research, Board of Education, City of New York, September 1952.
2. *Better Reading in Vermont Schools.* Curriculum Bulletin. Number 7, State Department of Education, Montpelier, Vermont, August 1952.
3. *What Research Says To The Teacher.* Arthur I. Gates Department of Classroom Teachers of the American Association of the National Education Association, June 1953. Price $.25
   1201 Sixteenth Street, Northwest
   Washington 6, D. C.

SPAULDING—TV

(Continued from page 15)

unexpected things happen. For example, the demonstration of the automatic sprinkler system gave both the participants of the program a good drenching.

A typical program showed various models of telephones as they looked in the past. Some of the basic principles of sound vibrations were discussed. The concluding part of the program gave a demonstration of the dial telephone of today, and how the switching of the old-fashioned switch board is accomplished by the dialing mechanism.

MORE PROGRAMS NEXT MONTH

Thought control by *any* group is intolerable to Americans. We affirm that the quest for tomorrow invites intellectual excursions into the hard realities of life, the dangerous problems, the antagonistic concepts, not insulated nurseries where gullible innocents are spoon fed on an innocuous diet of safe ideas.—*Harold C. Case*, Boston University.

NEW!

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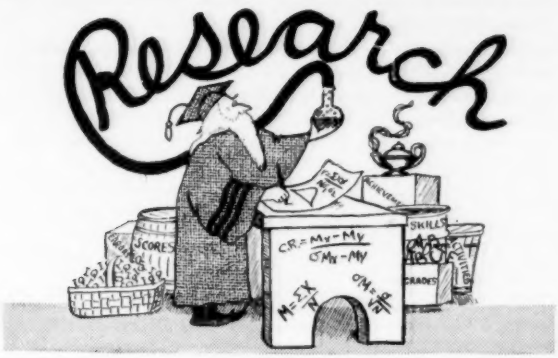

TELEVISION

Each invention disrupts the patterns of living in degree, some great and some small. The engine, the automobile, the telephone, the aeroplane, and now television are each having their effect. In some quarters, the initial reaction to invention is frequently one of anguish, as if the event were tragic. With the advent of television one heard stories of "TV eyes," neglected children, avoided homework, scholastic failure, etc., which in turn have prompted research on questions regarding the effects of television on children of school age. As far as the children are concerned, the adults can do the research, no opinion poll is needed to measure their enthusiasm for TV which gives stories like books, pictures like movies, voice like radio, and adventure like comics. But does it retard scholastic achievement, encourage apathy, produce addiction, kill self-expression, and encourage criminality?

Who views TV. To date the viewing of television has largely been an urban activity. Between 80 and 95% of the urban children sampled in several surveys see TV consistently, even though there may not be a set in their own home. In the "fringe" areas of poorer reception viewing is about half as great. Viewing will undoubtedly increase in these areas as more television stations are inaugurated.

Elementary school children average 32 hours per week (as much time as they spend in school) viewing TV, generally in a group rather than solitary activity. There is little or no difference in amount of viewing dependent upon length of ownership. As has been true of comic magazines, there appears to be a progressive drop in time spent viewing with increase in age, the weekly average of secondary school students being approximately 18 to 20 hours viewing of TV, with brighter students viewing 11 to 15 hours per week. Children from all socio-economic levels and with all I.Q.'s are viewing with equal interest. Most of the viewing done during week days is between 7 and 9 P.M., while on Saturdays there is slightly less but later viewing. Three-quarters of the children do their viewing in their own home. (1, 3, 6, 7, 8)

Preferences in viewing tend to follow interests characteristic of sex and age levels. Elementary youngsters prefer the cowboy and family shows, intermediate grade youngsters prefer comedy, sports, plays, mystery and western shows, while the high school youngsters prefer the adult programs. Boys tend to prefer comedies, sports and westerns, girls the plays, mystery and variety shows. By and large the youngsters viewing are uncritical in their preferences, rating all they see favorably. Fifty percent of the children have unlimited choice of programs; with the other half, parents influence or regulate choice. Teachers have had little or no influence on choice of programs being viewed by school children. (1, 2, 6, 7, 8)

Effect on Recreation. Several studies report that TV has not interfered in the participation of children in recreational activities either as participants or spectators. Generally, interest and participation in church, outdoor activities, sports, has remained the same or increased. Time spent reading books and magazines has been the same for the great majority of youngsters, with approximately 6% of the youngsters showing a decrease in this activity during early stages of ownership. More seriously affected recreational activities have been reading of comics, seeing motion pictures, and radio-listening, all of which have shown marked decreases, as much as 50%. Group recreation such as YMCA and YWCA have shown decreases. Roughly, 50% of elementary children who regularly viewed TV maintained hobbies, such as stamps, model planes, collections, painting, music, and modeling. Twenty-five percent had the hobbies reinforced by seeing them on television. Contrary to parental opinions, outdoor play did not suffer as a result of television. (4, 6, 8)

School Achievement. The majority of high school students (78%) do homework before watching TV. Their opinion is divided as to whether TV helps or hinders school work. Parents agree with their children that TV seldom interferes with homework, believe it occasionally helps such subjects as spelling, science, civics.

In a study involving junior high school students in which matched groups were employed, half owning TV sets and half without, no difference in gains or losses in academic achievement was found in subjects such as geography, language, mathematics, literature, and science. Measures utilized were grades based upon teacher examination, classwork, and homework. In a separate study with high school students, civics, history, current events, science, drama, literature, and art showed improvement, whereas languages and mathematics showed decreases.

No difference in reading achievement was associated with presence or absence of TV in a study using matched groups of sixth grade children. It is noticeable that youngsters who do not own TV spend more hours listening to the radio. The advent of a TV set tends to cause an initial drop in the amount of time devoted to recreational reading which subsequently shows a return to the same volume of reading. The academic achievement of "constant viewers"—those children spending five to six hours daily watching TV—shows marked losses. (1, 4)

Health. Contrary to the frequently expressed opinion, there is no positive data of TV causing extensive eyestrain or producing a permanent eye damage. The viewing of TV under faulty conditions can produce eyestrain as it does under similar conditions of reading. However, where viewing is done at a proper distance, directly in front of the set, with indirect lighting and no colored glasses, eyestrain is improbable.

Effect on Social Values. Incampo has studied the six most viewed programs—I Love Lucy, Colgate Comedy, I Remember Mama, Talent Scout, Man Against Crime, Texaco Star Theatre. Characteristic American social values are

(1) competitive aggressiveness as a basis for personal and collective security, (2) wide variations in power, (3) high mobility, (4) identification with vocation as a sociological group, (5) material advancement, and (6) high value on human life. As far as home life is concerned the social ideals and attitudes presented on the designated programs include a wide range with the accent on middle class values. They suggest that excessive money produces problems rather than happiness, point up typical home routines with assigned task and responsibilities as a function of youth, frown on broken homes. Where a broken home occurs, the cause is usually a slight disagreement and all ends well. Serious marital problems are avoided.

TV crime programs fall into two classes, fictional and documentary. In the fictional, the criminal types portrayed are the hard gangster, the glamorous girl, the brilliant private detective, and the bumbling policeman. In contrast the documentaries show ordinary criminals, few women, and diligent police work. In general, crime is not made appealing, the criminal finds reacceptance into society difficult, previous offenders are suspect, and the role of private detective is highly distorted.

Values of brotherhood are stressed and overt Negro discrimination avoided. Nevertheless, there are a few mixed acts, most Negroes appearing are cast in menial roles. Most Russians are presented as arrogant, sullen, and stubborn. These programs over-emphasize the professional occupations and enhance the concept that everyone can make a million. In the concepts of love demonstrated men and women loathe each other at first sight, women are never sure of love until slapped. Moreover, women are presented as being shrewder, craftier than men, and the more intellectual the latter, the less capable they are of earning a living. (5)

Problems. Parents believe TV interferes with eating and outdoor play, causes occasional difficulties at bedtime and with home duties; they object to immodesty. Parents think TV is an important invention with limitless educational values, state that TV reduces "hanging around" street corners and brings "teenagers" under closer parental supervision. Teachers report using TV in conjunction with homework with good results, believe it contributes to classwork in majority of instances, but also to occasional problems, causing a neglect of literature and overemphasis on amusement. Moreover, since the advent of TV, class material has to be presented in a definitely interesting manner or inattention results according to one teacher. (2, 6, 7)

Summary. Regardless of economic status of home, television sets are extensively found (there are more TV sets than bathtubs in Boston). Children are listening to adult programs, find appeal in exciting programs, incur little parental or teacher restriction in type of program viewed, view them with an uncritical attitude. Two-thirds of the programs viewed are non-educational. Time spent by children viewing TV each week is equivalent to amount of time spent in schooling, and has shown detrimental effect on scholastic achievement of excessive viewers only. By and large, educational achievement holds even or increases; reading shows an initial drop in amount, but returns shortly to original levels. The older the child, the less time spent watching TV. With the exception of motion pictures and radio which showed marked decreases, TV has had little effect on recreational pursuits of children.

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[4]Feeney, John F., Manning W. Hamilton, and John A. Stefani, *The Effects of Television on the Leisure Time Activities of the Sixth Grade Children in Medford, Massachusetts*, 1952.

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[6]Meiklejohn, Alexander, *Opinions of Pupils, Teachers, and Parents Concerning the Advantages and Disadvantages of Television*, 1951.

[7]Rosenberg, Paul F., *A Survey of the Television Viewing Habits of Students in Somerville High School, Somerville, Massachusetts*, 1952

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WHIPPLE—SOCIAL STUDIES

(Continued from page 19)

vance to the higher elementary grades, they are much in need of reference points in locating events in history. The use of a time line[2] is helpful for this purpose.

Other methods of promoting clear comprehension of what is read include encouraging children to bring to class things that will help make concrete the ideas presented in the reading material, detecting and correcting misconceptions, encouraging extensive reading that provides illustrations of the facts presented, and employing discussion techniques. Suppose, for example, that the class is studying about life during some historical period. The period can be greatly clarified if the children are asked to discuss which of our modern inventions had not yet appeared, and thereby be led to think in terms of the simpler life existing at that time.

How Can I Stimulate Children to Consult Maps As They Read?

To be most effective in the social studies, the reading of textual material must go hand in hand with map reading.[3] In schoolbooks, library books, newspapers, and magazines the child meets maps which give pertinent information about locational factors discussed in the text. Unfortunately, classroom observations show that most children do not go to these maps for information except upon the specific suggestion of their teacher.

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[2]For a description of procedure in developing and using a time line, see: Barnes, Katharine F., "Methods of Increasing Competence in Interpreting Social-Studies Materials In Grades Four to Six," *Improving Reading in All Curriculum Areas*, p. 176. Proceedings of the Annual Conference on Reading held at the University of Chicago, 1952, Vol. XIV. Compiled and edited by William S. Gray. Chicago: University of Chicago Press, 1952.

[3]For detailed teaching suggestions grade by grade, see: Whipple, Gertrude, "How To Introduce Maps and Globes." How to Do It Series, No. 2. National Council for the Social Studies, 1201 Sixteenth St., N.W., Washington 6, D.C., 1953. (A pamphlet.)

In a laboratory period, therefore, the children should be shown the usefulness of the map and the best methods of learning from it. The teacher may ask the children to state what they can learn from a map which is not told in the verbal matter, thus encouraging their interest in what maps tell. The teacher may also use the maps to raise problems for study, may guide the children in devising directions for examining maps and recording what they see, and may encourage them to use maps in reporting on what they have read in a text. Of course, it is essential that the school have a carefully graded program of map-reading instruction in order that children may consult maps and derive information from them without meeting difficulties.

How Can I Insure That The Child Will Read Widely in the Social Studies?

As valuable as standard textbook material is, it is not sufficient to serve the goals of the social studies. It is the starting point to be extended with other schoolbooks, books of a library type, encyclopedias, atlases, newspapers, magazines, pamphlets and any other materials of appropriate reading difficulty which will satisfy the teaching aims. However, nothing is gained by merely supplying children with a wide array of supplementary materials. We must also insure that they read these materials with understanding and obtain some definite value from the reading. It should bestow pleasure, contribute new ideas, clarify perplexing points, stimulate further reading, or take the child beyond the social facts to spiritual and aesthetic qualities.

The teacher needs a classroom that is pleasant, cheerful, convenient, and comfortable for wide reading. There should be corner book shelves well stocked with books, and library tables and chairs at which to read them. Lacking proper equipment, many teachers have been able to improvise attractive and comfortable browsing facilities.

A helpful step is cooperative planning for the reading. The children may consider whether each child will read as an individual or as a member of a committee. In either case each child will choose the topic which he wishes to investigate, and then find the references that fit his needs, perhaps with the help of his classmates, the committee chairman, or the teacher. The materials available in the classroom will be supplemented by books from other sources such as the school or public library or children's personal collections.

Furthermore, opportunities will be provided to share the results of the reading since this makes it purposeful, important, and socially significant to the reader. There may be individual reports, committee discussions, or round table discussions participated in by a group with supplementary comments from the rest of the class. This oral sharing puts a premium on finding worthwhile ideas, interpreting them correctly, and being able to compare them with ideas gathered elsewhere by others. It also satisfies a child's natural desire to talk over what he has learned. To the extent that all the children participate, that no one is allowed to monopolize the discussion, that the ideas presented are pertinent to the topic, and that children express their ideas clearly and in their own words, the reading and discussion will make valuable contributions to learning.

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instruction in spelling. The spelling words in all written work should be carefully checked, and words frequently mis-spelled should be studied utilizing the same procedures employed in the regular spelling lessons. Pupils should be encouraged to compete with their own scores in an effort to eliminate spelling errors in written work. Each pupil should study independently the words identified by mis-spelling in his written work.

Providing the best possible systematic plan of instruction, and seeing that pupils recognize the value of an orderly method of studying spelling will increase spelling ability. Add to this some techniques which are designed to eliminate specific errors, and better spelling achievement ought to be the result.

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WEAVER—NUMBER SYSTEM

(Continued from page 10)

Representative and manipulative materials *can* be an aid to meaningful instruction. They must be used with care, discrimination, and forethought, however. Although under certain circumstances it may be perfectly in order for children to make their own selection of materials, representations, and manipulations, in many instances this selection must be guided and directed by the teacher if a specific purpose is to be accomplished properly and effectively. Otherwise confusion or misconception may result.

It is very important for the teacher to think through very carefully the meaning of each step of any process to be taught. Then, if representative and manipulative aids are to be used advantageously and effectively so that meaningful instruction will be facilitated, the teacher must guide and direct the learning activities and experiences so that: (1) the materials selected and used will be those which are most appropriate and helpful in terms of the mathematical meanings and skills to be developed and illustrated; (2) the materials will be those which are most effective at a given stage or level of learning; and (3) the children will be led to progressively more mature and efficient representations and manipulations. In ways such as this the teacher is able to translate acceptable learning theory into effective classroom practice.

Does any superintendent dare to have one evening a month when he keeps open-office for teachers to see him "off the record?"

STRONG—WRITING PROGRAM

(Continued from page 13)

a role to play and a definite contribution to make to total development. Certainly not all will have the spark that grows into the production of literature; but here and there it may be discerned and appreciation and encouragement may help it glow brighter and grow stronger. For the vast majority, creative writing is therapeutic in that it provides a release for emotions. Psychologists tell us that great damage results from bottling up emotions and writing for self alone or to share with others may provide a needed release. Teachers often have increased insight and understanding of children's problems as they create their own situations for imaginary characters.

Basic to all writing and underlying freedom of expression is the need to have something of vital interest to say. The classroom climate, environment, and daily program will in a large measure determine whether the writing will be scanty, dull, and lifeless or whether it will be vivid, rich, and fluent. A program geared into the needs of individuals will cause them to have much they want, need, and must say to others orally and in writing.

The hills are reared, the seas are scooped in vain
If learning's altar vanish from the plain.—*William Ellery Channing.* (Painted on the mantlepiece at Alcott House, Concord, by May Alcott.)

We do not know what education could do for us, because we never have tried it.—*Robert M. Hutchins.*

Education should be as gradual as the moonrise, perceptible not in progress but in result.—*George J. Whyte-Melville.*

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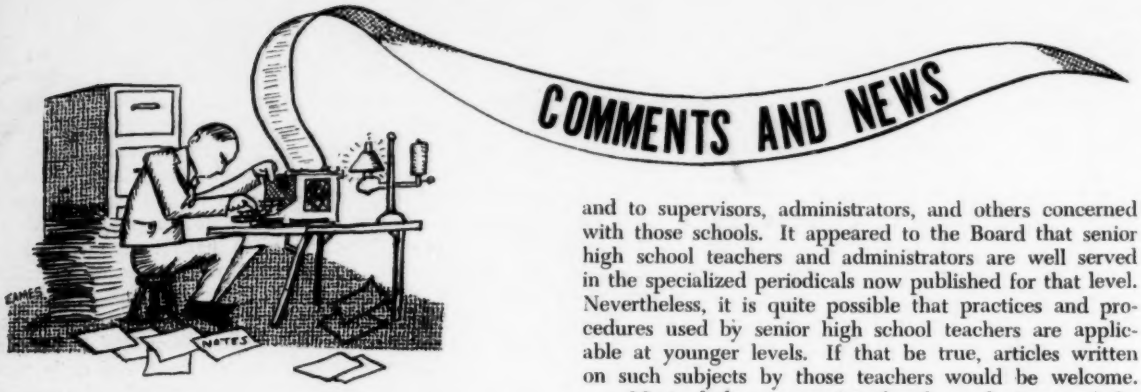

This issue of the JOURNAL OF EDUCATION marks the beginning of a new venture for Boston University School of Education. Although published by Boston University, it is not a house organ nor is it local or regional in character, either in its subscription coverage or its contributors.

The old JOURNAL began publication in 1876 and through the years to 1952, especially under the leadership of W. W. Winship, was a prominent voice in American education—a periodical devoted to matters of general educational interest in the American scene. The new JOURNAL has as its prime objective the improvement of effective classroom practices.

Effective classroom practices are concerned with what goes on daily in classrooms in arithmetic, social studies, reading, and the other teaching areas. They are also concerned with all the other features of daily living in a school which contributes to the educational growth patterns of boys and girls. Furthermore, effective classroom programs are conditioned by the methods and procedures of principals, supervisors or educational consultants, and all the other persons and officials in school and community whose action or lack of action make for good or poor learning situations for those attending school.

It is to the continued improvement of the learning situation through the most effective procedures and practices that the pages of the JOURNAL will be devoted. Lest it be thought that the JOURNAL will be interested only in practice and not at all in other fundamental factors in the teaching process or teacher learning, it should be said that articles will be published which stimulate thinking that develops and strengthens basic understandings of the teacher about children or subject matter, although they may not immediately affect the "Tuesday and Wednesday" ways of teaching a specific in the classroom.

The organizational pattern of the American school system is so broad, extending as it does from kindergarten through the twelfth grade and sometimes beyond, that a journal cannot adequately deal with such a wide spread of educational activity if individual classroom situational possibilites are considered to be an important aspect of the articles presented. Thus the Editorial Board was faced with a decision of policy as to what area, or grade range, the JOURNAL OF EDUCATION would attempt to serve. The JOURNAL is directed principally to teachers in the elementary and junior high schools, and to supervisors, administrators, and others concerned with those schools. It appeared to the Board that senior high school teachers and administrators are well served in the specialized periodicals now published for that level. Nevertheless, it is quite possible that practices and procedures used by senior high school teachers are applicable at younger levels. If that be true, articles written on such subjects by those teachers would be welcome.

Most of the manuscripts for the early issues of the JOURNAL were solicited so that a balance might be maintained in the various teaching areas. We shall continue to solicit some manuscripts but we also want articles from any of our readers who can send us contributions which are in line with the stated policy of the magazine. The Managing Editor invites correspondence with prospective contributors so that he might answer their inquiries about the desirability of material which they might suggest.

In many parts of the country October and November are the months of teachers' conventions. Are you a note-taker at such meetings? Do you ever use any of the notes that are made, other than for that oral or written report which may be required in your home school system? Have verbatim notes ever served any other purpose than that for you? Why not try making notes of a different kind? Frequently it is not so much what a speaker says directly that ought to be written down as it is the things you want to do or think further about in your own position, brought again to your attention by the speaker or stimulated by what he has said. Perhaps you see a new approach to a problem of yours, or have a fleeting idea that ought to be captured in writing for later consideration. "Always take the local situation into account" has served well as a principle of school administration. This is not interpreted as a barrier to change but implies careful examination of the local setting that desirable changes might be made. Through the kind of notes you make, let a speaker serve you in the place where you work and make your impress upon education.

This business of observing a-day-for-this or a week-for-that sometimes seems to be overdone. While many of them do not have anything to do with schools, too many, if their sponsors had their way, seek attention in the schools because of the captive audience that can be provided. Every week in schools certainly should be education week. On the other hand, to set aside one week a year in which the whole community is asked and urged to look at its schools is an important part of a good public relations program. American Education Week will be observed this year Nov. 8 to 14. Each year a great variety of materials is prepared by the National Education Association. This year the materials are organized around the general theme "Good Schools Are Our Responsibility," and may be obtained by writing the NEA at 1201 Sixteenth Street, N.W., Washington 6, D. C.

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